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29 September 1983

Worldwide Report

TELECOMMUNICATIONS POLICY,
RESEARCH AND DEVELOPMENT

No. 288

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NEAR EAST/SOUTH ASIA

SUB-SAHARAN AFRICA

FEDERAL REPUBLIC OF GERMANY

CHINA'S FIRST 480 CIRCUIT PCM MICROWAVE

Beijing GUANGMING RIBAO in Chinese 19 Apr 83 p 1

/Article by Hu You Quan /5170 2589 3123/7

/Text/ On April 17 and 18, the first pulse code modulation (PCM) 480 channel digital microwave relay communications system developed in China was used between the Shijiazhuang city station and an unmanned microwave relay station in Xinyue county some forty miles away. The continuous transmission of experiments with radiotelephone, data, radiophotography, digital video telephone and simulated color television were successfully achieved. This symbolizes that China's microwave communications have entered a brand new period.

Digital microwave relay communications systems are an advanced means of communication. It has the characteristics of high quality communication, good security, and a high degree of integration. Therefore, many countries all over the world have put a tremendous effort into carrying out research and development to slowly replace the original analog communications systems with digital microwave communications systems.

The Ministry of Electronics Industry organized and developed the digital microwave relay system. The ministry developed all parts of the system including the materials, circuit components and parts for the equipment along with 45 kinds of instrumentation. Complete solid state circuitry has been adopted.

12441
CSO: 5500/4169

YUNNAN REPORTS PROGRESS IN RADIO, TELEVISION

HK190218 Kunming Yunnan Provincial Service in Mandarin 1100 GMT 18 Aug 83

[Excerpts] Yunnan has achieved relatively great development in radio and television since the third plenary session of the 11th CPC Central Committee. Propaganda work has made notable progress. Now, apart from the provincial broadcasting station [TAI], the province has set up four minority-nationality autonomous prefectures broadcasting radio stations [Tai], 129 county, city, district, and town broadcasting stations [zhan], and 16,000 small networks. Small frequency-modulation station [tai] have been set up in 24 counties, including Dongchuan. There is a province-wide network centered on the county broadcasting stations [zhan] and based on the commune amplifying stations and integrating wired with wireless broadcasting, covering the millions of rural households. Apart from relaying important programs of the central and provincial stations, the great majority of counties run their own programs in connection with local characteristics. Basically the whole province is covered by broadcasting. Some 30 percent of the population can receive medium wave broadcasts, compared with 18 percent in 1979. In television, in addition to the provincial station, two central television transmitting stations and nine relay stations and 400 small [words indistinct] stations. The percentage of the population covered by television has risen from 8 at the end of 1979 to 34.5. By now all county seats and towns can receive television.

In order to carry out propaganda work still better, all stations assign the prominent place to transmitting and explaining the party's line, principles, and policies.

By now 113 county broadcasting stations [zhan] in the province are running their own programs with local characteristics. They have basically changed the past situation, when people referred to them as newspaper-reading stations. The province's first country-run broadcasting station [tai], the Luliang People's Broadcasting Station, is about to start service.

CSO: 5500/4190

LI XIANNIAN PARTICIPATES IN COMMUNICATION YEAR COMMITTEE

OW051256 Beijing XINHUA in English 1245 GMT 5 Sep 83

[Text] Beijing, September 5 (XINHUA) -- Li Xiannian, president of the People's Republic of China, has accepted an invitation to participate in the committee of honor of heads of state for World Communications Year. The United Nations General Assembly proclaimed 1983 "World Communications Year" with the aim of providing all countries with the opportunity of undertaking an in-depth review and analysis of their policies on communications development and to stimulate development of communications infrastructure.

In view of the vital importance of the infrastructure for economic, social and cultural development in every country, the World Communications Year interagency committee proposed establishment of a committee of honor of heads of state. Mr. R.E. Butler, secretary-general of the International Telecommunication Union and coordinator of World Communications Year, sent a letter inviting President Li Xiannian to participate in the committee of honor of heads of state for World Communications Year.

CSO: 5500/4192

BRIEFS

TROPO-SCATTER COMMUNICATION--Shijiazhuang, 9 Sep (XINHUA)--A prototype TS-193 portable tropospheric scatter communication apparatus is developed by the 19th Research Institute of the Ministry of Electronics Industry. The equipment was appraised by the ministry in April this year as meeting the international technical standards of the mid-1970's. The apparatus has a range of 200 kilometers. It can be used for defense communications as well as for sparsely populated areas, oilfields on land and offshore, oil and gas pipelines, and in field operations of electric power regulation, hydraulic, geological, metallurgical and mining departments. [Summar] [Beijing XINHUA Domestic Service in Chinese 0041 GMT 9 Sep 83 OW]

CSO: 5500/4194

MINISTER DISCUSSES TELECOMMUNICATIONS PROBLEMS

Warsaw ITD in Polish 17 Jul 83 pp 16-17

[Interview with Prof Wladyslaw Majewski, minister of communications by Waldemar Siwinski: "Check-up Discussion"]

[Text] [Question] Mr Minister, when I spoke to Prof Edward Kowalski at this same table several years ago about the long-range propsects of the development of telecommunications, in all, that was an optimistic discussion. Our conversation will certainly be more difficult, since more difficult times have come to pass for telecommunications...

[Answer] Both more difficult and easier too--that is a relative matter.

[Question] Why "relative?" Why, the scope of complaints addressed to the ministry you head has not decreased, but only increased. All of the figures are more and more drastic: more individuals are waiting for telephones, they must wait longer... We are turning out to be increasingly worse also in comparison with the world.

[Answer] At the present time, actually, we are installing somewhat fewer telephones than prior to the crisis. For the 1983-1985 3-year plan, we anticipate an increase of 250,000 subscribers, and previously we had an increment of 500,000 subscribers during a 5-year period--this was somewhat more. However, if we compare that with the rate of decline in the production of washing machines, refrigerators, or automobiles--then it turns out that the rate of decrease in production is lower than in other areas. Of course, the saturation of the market with washing machines, refrigerators, and automobiles is incomparably greater than with telephones. Therefore, the relatively greater increases in telecommunication will continue to be relatively too small in the opinion of the public.

[Question] Then why did you say that in a certain sense, the situation is better?

[Aswer] The new economic mechanisms were decisive in this. During the 1970's the ministry was income-producing, money went to the State Treasury, whereas it rarely ever came back. We also had such a "nice" thing as investment allotments, set on quite discretionary principles. As a result, we never

knew how much money we had for investments in a given year! Therefore, it was not possible to realize any development program consistently. On the other hand, during the current period, we have considerable autonomy. Including the profit, which can be estimated with considerable accuracy, and subtracting the taxes--we know ahead of time how much we can invest. Of course, life is not too beautiful, since right now we are encountering material barriers to execution, production barriers in industry... However, the basic conditions for success, the so-called stable resources for investment, are assured for us. In this regard, the situation is better than it was previously. Of course, this does not mean that things are great. With respect to telecommunications, we have a specific place in Europe.

[Question] Next to the last, from what I know, right ahead of Albania.

[Answer] Yes, there is an everage 15-year wait for a telephone. Of popular consumer goods, there is a longer wait only for a garage, because it is even easier with regard to a home.

[Question] Mr Minister, you mentioned the construction barriers. I expected that, since all of the representatives of the communications ministry are making a public outcry about the "impossibility" of constructing buildings for telephone exchanges. Why a year ago, on April Fool's Day, SLOWO POWSZECHNE announced that a Polonia firm intended during the course of a year to solve the telephone problem in Warsaw, people believed this because they wanted to believe it... Is that construction barrier really impossible to overcome?

[Answer] If some Polonia firm wanted to sign an agreement for the construction of buildings for exchanges, then please, all it has to do is to report... If there are barriers in housing construction, then of course, there are such also in the construction of telephone exchange buildings... There is a crisis. We produce less of everything. It is difficult to expect that we will currently install more telephones than prior to the crisis.

[Question] However, such expectations are easy to justify. From every economic crisis, it is possible to depart only by way of structural changes, since the same lag in the rate of development of all sectors of the economy would be only a support of the crisis structure. Why not so with telecommunications? Why, the improvement of the information system is a prerequisite for success in all other sectors.

[Answer] Even that is so, to a considerable degree. Our development during the time of crisis, is much more rapid than in many other sectors. This can be proven. Of course, you are right, that in a crisis everything ought not develop uniformly poorly... Nevertheless, it would be naive to expect that our development would be at avalanche speed if there were no crisis. Such disproportions are impossible in any economy. That more rapid development which is taking place in telecommunications in spite of everything, results from the acknowledgement of certain priorities for our ministry in the finance system, tax relief, etc., which is simply the consequence of recognizing the rank of telecommunications in the development of the country.

However, if the state sets such unshakable priorities as feeding the nation, housing, or health care, then in spite of everything, telecommunications is

less important compared to them, and this is understandable to me, and perhaps to everyone. The plan for putting 250,000 new telephone numbers into operation during the 3-year period, which is not much less than before the crisis, is a lot for an optimist, because it is up to 250,000, but for a pessimist, this is too few, because why should there by only that much, since 1.2 million applications are awaiting consideration in the offices.

[Question] And just as many persons in generally have not submitted applications, and would like to do so, simply because they do not have faith in the possiblity of favorable action on them! But in order not be be judged excessively critical, I shall now levy the question of the trump cards and achievements of telecommunications.

[Answer] Before the crisis, we automated domestic and international telephone traffic, we installed telephone service in the countryside, to a small degree, it is true, but there is at least one telephone in each village with an administrative office, there are telexes in the (gminas), and we expanded the radio and television broadcast servies. But our most important success of that period, from a long-range standpoint, is the development of a telecommunications industry, which was practically nonexistent at the beginning of the 1970's. We also have an excellent complement of skilled workers, which is able to cope with the capabilities of this industry. We successfully applied three licenses: for the Pentaconta telephone exchanges, for the E-10 telephone exchange, and for dials. Looking back at the road that we have traveled, one can see progress. Our facilities are more modern. We have begun to use fiber-optic conductors...

[Question] On a miniscule scale!

[Answer] But we are already completing the construction of a plant which will produce fiber-optic cable on a semi-industrial scale. We have a satellite station in Psary that is very modern.

[Question] But besides this, there are still many outmoded installations.

[Answer] Of course, a telephone network and exchanges of pre-World War II vintage are still operating in our country. We have to replace them systematically with newer ones. This is a great effort, done along with the installation of new number capacities. Hardly anyone knows about this effort... In Warsaw, the conversion to a seven-digit number system is a problem. It will be necessary to move quite a bit of new equipment into the network. And that is expensive equipment.

[Question] Where will that seventh digit be, at the beginning or at the end?

[Answer] At the beginning, of course.

[Question] Mr Minister, currently, telecommunications are experiencing a tempestuous growth in the world. There is even talk about an information society--which makes wide use of telecommunications, computers, and micropressors--as a new state development for humanity. Is our telecommunication infrastructure--network, exchanges, production back-up--modern enough to make it possible for

us to rapidly go over to the epoch of an information society as soon as it becomes economically possible?

[Answer] Above all, it is necessary to disperse the myth of the absolute technical level of telecommunications networks in the most highly developed countries. Of course, the things realized there are very new, but alongside them, old, often even prewar telephone equipment is operating--and well also. Frequently, these are worse than ours, qualitatively. But no one in the world replaces operating systems only to have them more modern.

[Question] But many of our overhead lines are not even of average level, but only far, far behind.

[Answer] This is really a minus. However, this applies mainly to the lowest planes of the network. On the other hand, our long-distance intercity lines are at a nice level on the whole. At a certain period, there was fascination with transmission, or telephonic data-handling. We are getting ready for fulfilling the requirements for this kind of service. As of now, the demand for computer centers is not great, however.

[Question] Mainly because our information sciences are behind the times.

[Answer] But that is not the fault of the Communications Ministry.

[Question A little more, and you, Mr Minister, will convince me that things are wonderful with telecommunications!

[Answer] That is not my intent at all. Prior to the time that I became minister, I was asked by a Sejm commission: "What will you do to develop telecommunications intensively in a short time?" I answered: "I will not do anything of the kind, because that cannot be done. I do not have a magic wand!" This was a shock to the commission, because in general, no one talks like that... But I do not have the inclination to promise that the rate of development will increase several times over. On the other hand, I can promise, with full responsibility, that the communications system will not break down.

[Question] Were we threatened with this?

[Answer] Yes. If investment in communications falls below a certain critical level, then an irreversible malfunctioning of the system can occur.

[Question] What would this depend upon?

[Answer] The closest analogy is that of electric power. If it is overloaded, the frequency drops considerably, and individual equipment and subsystems will begin to switch themselves out... With telecommunications, this would be much more complicated and threatening in its results.

[Question] Mr Minister, you mentioned that the greatest asset of the ministry is its people. In view of this, the question is: Did many young engineers from the ministry go off to foreign countries during recent years?

[Answer] Quite a few persons went off, and are going off on "Polservis" [contracting engineering enterprise] contracts. On the other hand, as far as illegal departures are concerned--that is marginal.

[Question] Mr Minister, you are certainly cognizant of the fact that the degree of public disillusionment connected with the Communications Ministry is exceptionally great. The reason is not only the small number of telephones, but also the method of distributing them and the poor quality of services. How is this situation to be improved?

[Answer] All of us remember when we have received poor service and have complaints about that. On the other hand, no one remembers when one got good service... This is also understandable. If, however, one has an objective evaluation of the whole, it is necessary to have both a negative and a positive evaluation. We are aware of the fact that all complaints, irrespective of the statistical evaluation of their justification, are individually justified, and therefore, we are attempting to eliminate their causes.

[Question] At times, one hears that it is possible to get a telephome with a payoff...

[Answer] If any sector is state-controlled, in the sense that demand is greater than the capacity to meet it, then the question always arises of whether these scarce goods are distributed in a proper way. This creates an occasion for the emergence of various kinds of gossip. I cannot absolutely exclude the installation of telephones for payoffs, but if we start to ask: Who, to whom, for how much, and where--no concrete answers can be given. During the time of my administration, I have not encountered any concrete case of this kind.

There is also one thing that has to be remembered: Since the telephone is a scarce commodity, people intervene at various levels, ask, beg. Disabled persons come, mothers with sick children--and at times, they are satisfied. I handle things, so does my staff and the district directors. And now there is the question: Whether people from apartments--who see that somebody got a telephone--know the situation of that individual, whether they manage to attain a fair appraisal as to why that person got it and they did not. Of course, I cannot exclude the fact that an intervening person deceived us and that we made a mistake in aiding that person...

[Question] Perhaps then it is necessary to make the process of distribution of goods more public. To announce the lists of those who have been granted a telephone ahead of time, to organize prepayments.

[Answer] Oh sure, prepayments. We know what happened to prepayments for automobilies, in spite of the fact that the problem with them is considerably more simple than with the case of telephones. During the previous period, we were not in a position to foresee what the results of investments in telecommunications would be, since as I said before, that did not depend upon us. We tried to make prepayments, but this ended in failure, and people had massive complaints against us. It is true, today we have a much more stable condition as far as investments are concerned, and at times I have a yen

to introduce prepayments--this continues to be less than simple, however, since our investments, for various reasons, continue to have slippages.

[Question] In view of this, let us try to imagine what will be after the 3-year period?

[Answer] Not too long ago, we planned to enter the year 2000 in a situation in which one telephone per two dwellings would be installed in the city, and one telephone for each eight dwellings in the countryside. However, this will occur several years later. Of course, we shall continue to be below the European average.

[Question] Then let us imagine even further: When will our telephone needs be satisfied?

[Answer] I am afraid, never. There are already several states in the world in which statistics tell us about the installation of over 100 telephones per 100 inhabitants. People install a second telephone in their homes, because their adolescent children want it, they have a third telephone at their summer cottages, and a fourth one on the yacht. It is assumed that sometime, the development of telecommunications will reach saturation. It will never happen. Anyway, this has not been confirmed anywhere in the world.

5808
CSO: 5500/3017

AIR URGES ELIMINATION OF RADIO INTERFERENCE

PA171416 San Jose LA PRENSA LIBRE in Spanish 8 Sep 83 p 5

[Resolution of the Inter-American Radio Broadcasting Association, "AIR", date and place not given; boldface as published]

[Text] IN VIEW OF the problems generated in some areas of the hemisphere as a result of interference in radio broadcasting frequencies.

WITH THE RESULTS

1) That the Government of Cuba has installed a radio station transmitting in medium wave that produces interference in the frequencies being used by other radio stations of the area in various countires of the Americas;

2) That interference produced by radio stations located in Nicaragua are also observed in the Central American area.

CONSIDERING

1) That states, in using broadcasting frequencies which have been assigned to them through international agreements, must proceed according to proper technical rules to avoid interfering in the transmissions of radio stations from other states;

2) That, according to existing international rules, medium wave transmissions must serve each country but try not to infringe on the area of other countries;

3) That having confirmed the existence of radio stations in Cuba and Nicaragua which do not comply with this rule, producing higher levels of interference in other countries of the area, the installation of Radio Marti could contribute to complicating the resolution of existing problems and could become a factor in the creation of new problems.

THE DIRECTIVE COUNCIL OF THE INTER-AMERICAN RADIO BROADCASTING ASSOCIATION RESOLVES:

1) To publicly denounce the existence of these interferences, which violate existing rules and the principles that should govern radio broadcasting transmissions;

2) To exhort all governments of the states involved to respect the principles and rules of the international law of communications and to reach necessary regional, bilateral, and multilateral agreements to prevent interference;

3) To recommend that its institutional members carry out the proper policy before their respective governments so that they may take action before the other governments of the hemisphere to promote the coordination of necessary agreements to eliminate existing interference;

4) To recommend that the governments of the states of the hemisphere respect existing provisions of the International Convention of Telecommunications and regional agreements.

BRIEFS

VENEZUELAN-ARGENTINE TELECOMMUNICATION AGREEMENT--Argentina and Venezuela have signed an agreement for cooperation and technological assistance in telecommunications. The agreement was concluded at a meeting held by Argentine Communications Undersecretary General Angel Alejandro Barbieri and the chairman of the Venezuelan counterpart of Argentina's Entel [National Telecommunications Enterprise]. General Barbieri, who was received by the Venezuelan president today, said that the agreement comprises technical assistance and the consultation of new technologies, information exchange and the utilization of equipment and facilities to develop projects and set up efficient stations. [Excerpts] [PY301514 Buenos Aires Domestic Service in Spanish 2000 GMT 28 Jul 83]

CSO: 5500/2095

SENATE APPROVAL OF 'ANTI-CUBAN' RADIO NOTED

FL141130 Havana Domestic Service in Spanish 1100 GMT 14 Sep 83

[Text] The U.S. Senate has unanimously approved the demand of the Ronald Reagan administration to establish an anti-Cuban radio station aimed at broadcasting subversive and diversionary propaganda against our people.

According to the bill, the new station will become part of the Voice of America radio station, the official voice of the Washington administration. It will dedicate 14 hours a day to broadcasting news and commentaries which will feature the usual lies against Cuba.

This subversive radio station will broadcast from facilities located in Marathon Key, Florida, and will operate on the AM band. According to news reports out of Washington, if the anti-Cuban radio should lack sufficient power to reach Cuba, it would use short wave frequencies or the U.S. Government could obtain broadcast time on U.S. commercial radio stations.

The bill approved by the Senate will now have to be approved by the House. Republican Senator Paula Hawkins has said that she expects the radio station to start operations in December.

CSO: 5500/2096

NEW TELEVISION SYSTEM UTILIZES ELECTRIC, SOLAR ENERGY

Lima LA PRENSA in Spanish 7 Aug 83 p 7

[Text] For the first time a modern television system began operation in the country yesterday. It makes simultaneous use of electric and solar energy. Hidrandina S.A., the Regional Electric System and subsidiary of Electro-Peru inaugurated this project, which is making an important contribution to the world of communications in our environment

This brand-new system will allow TV reception to be picked up in the Cahua Station located on the Pativilca River, and will serve as an outpost so that later on the future Mayush Hydroelectric station will be able to enjoy a similar advantage, which undoubtedly will also benefit the surrounding towns.

The new service has been planned as part of an integral communication system for the company, and also for television transmission by the Peruvian Broadcasting Company to the town of Cahua and adjoining areas which up to now have not had this service. Later on it will permit the installation of an efficient telephone, telex and teleprocessing service via microwaves, which will link the area with the headquarters of the company and with the rest of the country.

The main station, located on the "Lomo Largo" hill, situated in the Cordillera Occidental at 3,000 meters above sea level, has been installed on a 60 meter high antenna, and will use solar energy to function, while a second station will use energy produced by the Cahua Station itself in its operations.

This system was inaugurated by the president of the board of directors of Hidrandina, S.A., Raul Musso Vento. He was accompanied by high officials of that company and of the Peruvian Broadcasting Company, as well as by local authorities.

Musso Vento emphasized the importance of the project, which has been completed after 5 years of effort, and he noted that it is now a reality thanks to the on-going support of the Ministry of Energy and Mines and of the Transportation and Communications Sector.

8131
CSO: 5500/2094

INDIAN SHIPS TO HAVE SATELLITE COMMUNICATIONS

Bombay THE TIMES OF INDIA in English 19 Aug 83 p 4

[Text]

BOMBAY, August 18.

INDIAN shipping is going in for satellite communication, albeit belatedly. The first ship to be equipped with a shipboard terminal will be in service from May next year.

The Shipping Corporation of India, which has decided to have all new buildings equipped with satellite-ship earth stations, has ordered eight tankers from a Korean shipyard and the first of them will be received in May. The other seven will be delivered by November, 1984.

Incidentally, the order for the eight vessels was placed by SCI just when the international maritime satellite organisation (INMARSAT) sponsored by the international maritime organisation (a U.N. agency) completed one year. India is a member of INMARSAT.

SCI is the first Indian shipping company to go in for satellite communication. She may order seven more tankers and eight to ten bulk carriers during the current plan period, which will all be equipped for satellite communication.

The company has, in fact, urged the overseas communication service to arrange with INMARSAT for a special ship-shore station till the proposed coastal station at Belapur comes up in about three years.

If the Indian government approves of the request, INMARSAT may permit the setting up of such a station as SCI, the public sector unit, owns about 52 per cent of the national tonnage.

The other national shipping companies are also understood to have decided to have their new ships fitted with shipboard terminals for satellite communication.

SCI may consider whether to have the existing vessels equipped for satellite communication, if a special coastal station is set up.

Though merchant ships are yet to be fitted with shipboard terminals, three research ships of the national institute of oceanography have had such a facility for about one year now.

By 1990, all Indian ships in operation might be fitted with shipboard terminals, as the present system of communication would be declared obsolete by international regulation, Mr. B. V. Modak, director, INMARSAT project of the overseas communication centre, told this paper today.

He said the Oil and Natural Gas Commission was also interested in terminals on its drilling ships.

The planning commission has cleared the proposal for a coastal station at Belapur, and it will cover the countries bordering the Indian Ocean.

A few Indian firms, among them Bharat Electronics Limited (BEL), have shown interest in the manufacture of satcom (satellite communication) terminals, it is learnt.

Meanwhile, the first compact satcom station to be approved by INMARSAT has been designed and manufactured by Nippon Electric of Japan.

CSO: 5500/7195

PLAN CALLS FOR IMPROVEMENTS IN TELEVISION

New Delhi PATRIOT in English 24 Aug 83 p 5

[Text]

THE Planning Commission has called for expediting the completion of the television centres at Ahmedabad, Bangalore, Trivandrum and Gauhati within the sixth Plan period to prevent escalation of project costs, reports UNI.

The costs were increasing due to normal escalation as well as the introduction of colour compatibility in the implementation of some of the schemes for expansion of the television network in the country.

This has been stated in the mid-term appraisal of the sixth Plan (1980-85) just published by the Planning Commission.

The Planning Commission has also noted that the three programme production centres at Raipur, Muzaffarpur and Gulbarga were likely to spill over to the seventh Plan.

Particular attention would have to be paid to commission these programme production centres quickly so that software capabilities do not lag behind, the report says.

The increase in software capabilities was of speecial importance in the context of the large expansion of TV coverage now stipulated under the special plan for expansion of TV network.

Referring to the important new schemes being started under the Plan, the report says that a number of them would not be completed during the current Plan period. These include the 1000 kw medium-wave transmitter at Nagpur for the national channel and the two 500 kw short-wave transmitters at Bangalore for external services.

Slippages were also expected in the programme for strengthening of the regional programme directorates as well as construction of staff quarters.

However, the report says that the physical progress in the sound broadcasting schemes, which have spilled over from earlier plans, had been satisfactory and most of them were expected to be completed in the current Plan period.

Only some of these schemes, like the scheme for a new broad casting house for the External Services Division and News Services Division would spill over to the next Plan. The work on construction of 'Soochna Bhavan'—in the field of information and publicity—was also behind schedule, the report adds.

The total provision in the sixth Plan relating to information and broadcasting under the Central sector is Rs 240.33 crores.

On present estimates, a sum of Rs 128.23 crores is expected to be utilised in the first four years of the Plan and a provision of Rs 62.5 crores may be reckoned for next year assuming a 25 per cent step up in 1984-85 over 1983-84.

CSO: 5500/7197

BRIEFS

DIGITAL SWITCHING SYSTEM--NEW DELHI, August 20. A MAJOR time-bound programme for the development of an advanced digital electronic switching system is expected to be approved by the Union government soon. The proposal, based on the assessment of the electronics department that it is feasible to develop such a system in three years, will involve resources to the tune of Rs. 36 crores and services of the outstanding communications engineers working on the latest technologies abroad. It will be a national effort to be supervised by a society headed by the communications minister. If the effort is successful, it could save the country vast foreign exchange and give it a significant rule in the world communications market. The government has already decided to set up two factories for the manufacture of digital electronic telephone exchanges each of 500,000 lines per annum based on collaboration with CIT-Alcatal of France. Another factory for digital trunk automatic exchanges would also be set up based on CIT-Alcatel technology. However, considering the country's growing requirements, a third major unit would be necessary in the next plan by which time, it is expected that indigenous developmental effort would have borne fruit. According to the deputy electronics minister, Dr. M. S. Sanjeevi Rao, decks had been cleared for some of the major new projects such as the national silicon facility and a microwave tube unit. At the semi-conductor complex in Chandigarh, the first large-scale circuit will be produced by October this year. This complex would be using contemporary technology for making the "chip". [Text] [Bombay THE TIMES OF INDIA in English 21 Aug 83 p 1]

TELEPHONE DATA TRANSMISSION--NEW DELHI, Aug. 23. The Posts and Telegraphs Department will introduce shortly data transmission facility on the public telephone network. Any telephone subscriber connected to an automatic telephone exchange can send data from his data terminal equipment (DTE), via a data modem, which would be connected to the line after a telephone call is established between two subscribers. The subscribers will pay "data access charge" and a "modem charge" for the modem in addition to the normal telephone rental, local and STD call charges for utilising such facilities. Enquiries can be made with the customer service centres wherever established, or with the concerned Divisional Engineer. Telephones. Requests for the service will be met by them. It is expected that a large number of users of data services would take advantage of the introduction of this modern facility in India. A special data service would be introduced in the next phase between the four metropolitan cities at 300 bits per second data speed making use of the

electronic telex equipment over the telex network, which is currently in different stages of installation and testing. [Text] [Madras THE HINDU in English 24 Aug 83 p 11]

ELECTRONIC TELEX NETWORK--NEW DELHI, Aug. 23. The Union Government has decided to form an all-electronic telex netwok and is formulating a national telex plan. In addition to the existing zonal centres at Madras, Bomb ay, Delhi and Calcutta, the Communications Ministry has identified for installation of 20 primary switching centres. Six of these will be at Ahmedabad, Bangalore, Hyderabad, Ernakulam, Jaipur and Guwahati. Proposals to import the telex equipment are awaiting clearance from the Department of Electronics. The Posts and Telegraphs Department had earlier floated global tenders for the import of four stored programme controlled (SPC) electronic type telex exchanges with a total capacity of 10,400 lines for the replacement of the strowger telex zones centres at Bombay, Madras, Delhi and Calcutta. After the scrutiny of the global tenders, the EDX make, manufactured by Siemens of West Germany, was chosen. Since then the SPC telex has been installed in Bombay and the transit traffic of the western zone has been transferred from the strowger exchange to the SPC telex in a phased manner. The SPC telex in Bombay is now fully operational with 3,000 trunk lines and 700 subscriber lines of North Bombay. The Calcutta telex exchange was commissioned last week. The installation of electronic telex at Delhi and Madras is in the final stage of testing and commissioning. The replacement of the strowger telex network became necessary because it has no capabilities for regeneration of signals and long distance telex calls over more than one zonal centre. It has high rate of failure and the quality is poor.--Our Special Correspondent. [Text] [Madras THE HINDU in English 24 Aug 83 p 11]

GOA TELEVISION TRANSMITTER--Panaji, August 15--GOA's television relay transmitter would be upgraded to ten kilowatts from the present one-kilowatt one to cover the entire Union territory, the information and broadcasting minister, Mr H.K.L. Bhagat, said here today. Talking to reporters here, Mr Bhagat said a 100-metre-high tower would also be installed next year to increase the range from the present 80 km to 100 km. Replying to a question, he said he would examine a proposal to enable the viewers to receive programmes of Madras Doordarshan on their TV screens. At present, only Marathi programmes of Bombay are relayed to Goa. He said Konkani programmes would be broadcast from Bombay. The Union minister said all chief ministers were asked to help prepare 20-minutes colour documentaries on their respective areas for telecasting on the national hook-up. He also advised states to increase community sets to enable weaker sections, especially in rural areas, to benefit from the TV medium. He said the Union government was considering the opening of second TV channel. He added that TV programmes were being obtained from various sources, including private, to avoid domination of the medium by the celluloid world. [Text] [Bombay THE TIMES OF INDIA in English 16 Aug 83 p 6]

NEPAL SATELLITE LINK--Bombay, August 6--Telephone calls to Nepal via satellite will be available round the clock to the public from all over India from August 15. Charges for such a call will be Rs 20 per minute and the minimum chargeable duration will be three minutes, according to information from the director-general, Overseas Communication Service, here. Subscribers booking the call with the international trunk service should specify that the call be rented over the satellite circuit to avail of the benefit of the new communication, the director-general has stated. [Text] [Bombay THE TIMES OF INDIA in English 8 Aug 83 p 5]

ELECTRONIC TRUNK EXCHANGE--The Calcutta Telephones stepped into the "era of electronic communication," when the first call through the electronic trunk automatic exchange was made to the Vice-President, Mr M. Hidayatullah, from the Telephone Bhavan, Calcutta, on Sunday morning. Mr V.N. Gardgil, Union Minister of State for Communications, and Mr Jyoti Basu greeted the Vice President. Mr Basu invited Mr Hidayatullah to the State and the latter accepted. The electronic exchange is the second in the country. Mr S.K. Ghosh, Secretary, Ministry of Communications, said that official reports revealed that the performances of Calcutta Telephones were the worst. However, steps were being taken to improve the situation. He reiterated that the Centre was not indifferent to the problems of the city. Mr Jyotirmoy Basu, General Manager, Calcutta Telephones, said that the new 3,000-line electronics exchange would improve long-distance STD calls from and to Calcutta. The exchange was installed in the Telephone Kendra at Tiretta Bazar at a cost of Rs 6.5 crores. [Excerpts] [Calcutta THE STATESMAN in English 15 Aug 83 p 1]

EARTH STATION PLANS--New Delhi, Aug 9--The Posts and Telegraphs Department has prepared a plan to set up earth stations in some of the inaccessible areas of the country to help provide telecommunication facilities. These areas are: Doda, Rajouri, Poonch, Kargil, Pahalgam, Kalpa, Keylong, Srinagar (Garhwal), Joshimath, Uttarkashi, Zero, Seppa, Amini, Daporezo, Champbell Bay, Diglipore and Great Nicobar. Satellite earth stations have also been established in Bombay, Calcutta, New Delhi, Madras, Shillong, Ahmedabad, Bhubaneswar, Ernakulam, Hyderabad, Jaipur, Jullundur, Lucknow and Patna. [Text] [Calcutta THE STATESMAN in English 10 Aug 83 p 14]

APPLE PRESS CONFERENCE--New Delhi, August 13 (UNI & PTI)--Newsmen in three distant cities today participated in the first teleconference held in the country through its own satellite. The tele-press conference, conducted through APPLE, was held at the end of a telesymposium to mark the second anniversary of the APPLE utilisation programme. It was organised by the Space applications Centre. Answering newsmen from Ahmedabad, Delhi and Bangalore were the centre director, Prof E.V. Chitnis, its communication area chairman, Mr O.P.N. Calla, the course director of the telesymposium, Mr K.N. Shankara and the APPLE utilisation programme director, Mr Pramod Kumar, and the Indian Space Research Organisation director, Dr U.R. Rao. Dr Rao was at Bangalore and the others at Ahmedabad. Prof Chitnis said the University Grants Commission was considering a proposal to link select colleges through satellite for presenting common audio-visual educational programmes. About 150 participants from six different locations in the country shot questions while Prof Chitnis and other experts answered. During the symposium, an advance-level video course on satellite communications was transmitted to post-graduate students at Madras, Bangalore, Bombay, Ahmedabad, Delhi and Ghaziabad. Dr Rao said crippled APPLE, India's first experimental communication satellite, today successfully completed all set goals of its mission. [Text] [Bombay THE TIMES OF INDIA in English 14 Aug 83 p 1]

CSO: 5500/7190

TECHNICAL ACHIEVEMENTS BOOST TRANSMISSIONS

LD061515 Tehran IRNA in English 0902 GMT 6 Sep 83

[Text] Tehran, 6 Sep (IRNA)--The Islamic Republic News Agency (IRNA) has met over 60 percent of its needs in the field of transmission of news during the past one and a half years, thanks to the efforts of its technical-engineering department.

This has been another step in thoroughly cutting off any dependence on either Western or Eastern world expansionists.

One of the equipments manufactured by this department is the multi-address transmitter which sends news, through one telex transmitter, simultaneously to 10 printers, of which so far 50 have been manufactured. This effort has also saved the flow of currency abroad.

Another item manufactured by the department is the FSK convertor, of which 20 manufactured this year, which converts telegraphic waves received through radio, into signals to be read by printers. The money spent for its manufacture in the country is one tenth of the sum used to be paid for its purchase from abroad.

The department has also been successful in converting computer receivers to telegraphic receivers and change their language from Japanese into Persian or Arabic and vice versa, of which 20 have been manufactured.

The department is scheduled to manufacture, with the cooperation of the Research Centre of Iran Telecommunication Company, high frequency radio receivers, sufficient number of which will be completed soon.

CSO: 4600/892

EXTERNAL TELECOMMUNICATIONS SERVICES DESCRIBED

Background, Facilities Described

London AFRICA NOW in English No 27, Jul 83 pp 54-58

[Article: "NET: Window on the World"]

[Text]

The main product line of the Nigerian External Telecommunications Ltd. (NET) is international telecommunications services through a combination of communication satellites, submarine cable microwave links and the obsolescent high frequency radio network, which is not very much in use due to its restricted and narrow frequency band width.

The first direct telegraph service between Lagos and London was operated through submarine cable in 1886 by the African Direct Telegraphy Company. Ever since, and with the achievement of independence in 1960, Nigeria has developed systems in communications networks to keep pace with the space-age demands in international co-operation and to ensure reliable services through diversification of routes.

Nigeria became a sovereign nation on October 1, 1960 and, being aware of the major role of external telecommunications in national developments, teamed up with Cable and Wireless of London to establish the present Nigerian External Telecommunications Ltd.

In December 1962, NET was incorporated with the Federal Government which held an equity share of 51% while 49% was held by Cable and Wireless of London.

Aware that the Federal Government's objectives in the area of communications could not be fully realised without complete ownership of the company, Cable and Wireless's 49% equity share was acquired in September 1972, 12 years after independence, and complete indigenisation of the Nigerian External Telecommunicatons was accomplished.

NET is Nigeria's telecommunications window on the world and has made a spectacular breakthrough in modern communications technology.

In the general scheme of worldwide telecommunications, NET is recognised as an operating agency by the International Telecommunications Union (ITU); holds membership of the Commonwealth Telecommunications Council (CTC), the Pan African Telecommunications Union; and is a signatory of the International Telecommunications Satellite Organisation (INTELSAT). Through these bodies, Nigeria takes part in decision-making in the area of world telecommunications policies.

In 1977, for example, as a result of a telecommunications bilateral agreement between Nigeria and the Republic of Benin, routing circuits were established over the Lagos/Benin link for the transmission of telephony and telegraphy through France to the rest of the world. Both countries are also linked through submarine cable — a system which connects other West African countries.

The submarine cable system linking Nigeria and Europe is partitioned into

segments: Nigeria/Ivory Coast: Ivory Coast/Senegal: Senegal/Morocco and Morocco/France. Nigeria and France, at the two ends of the segment, were responsible for the capital cost of the system while the other countries buy the Indivisible Right of Use (IRU) in the segments which do not belong to them but which they can use as though the system is exclusively owned by each of them.

NET offers diverse services which include international telephone, international telegraph, telex and telex delivery service, leased-circuit telegraph, high speed data transmission, newfax (facsimile), transmission and reception of real time television. These services are offered 24 hours daily.

Telephone services have been further improved with the introduction of international Direct Dialling (IDD) in 1980.

In keeping abreast with the information revolution now taking place in the world, NET has introduced computers in its telecommunications systems and has continued to make significant contributions in the global evolution of modern telecommunications.

The need for high quality wide-band transmission and the demands of modern technological techniques necessitated a radical departure from the high frequency radio (used soon after the incorporation of NET in the 60s) to satellite communications. The nerve centres of transmission and reception — Ikorodu and Ikoyi respectively — shifted to Lanlate, in the Western highlands and forests of the old Oyo/Abeokuta province. Lagos.

Lanlate links the Marina head office of NET, through a microwave link system, with repeater stations at Alabata, Ogidan and Ikorodu. In March, 1971, Lanlate was commissioned and put into commercial operation by transmitting carriers to the Indian Ocean region.

Five years later, the second antenna was raised in the same location but transmitting into a different ocean region — the Atlantic. Both projects have been fondly called Lanlate I and II respectively and, through the station, NET reaches out to over two-thirds of the world.

In spite of these achievements, NET is not resting on its oars. With inadequate internal communications facilities, a poor transport system and bad roads, ways of improving its services and of justifying its monopoly position are ever being explored.

Global oil politics and its consequent declining fortunes for Nigeria is enough warning that the sword of Damocles hangs over our head should we continue to rely on this one-time "black gold."

Agriculture has been very much neglected and not even the "green revolution" creed has seen us out of the woods. What hope is there for the future? Is satellite communications an effective alternative to these sectors of our economy as foreign exchange earners?

We won our independence on a "platter of gold" and inherited a mono-culture economy that has marginally sustained us over the years through the workings of some divine providence. Times were when groundnuts, cocoa, palm-oil, palm kernel and coal dominated our economy before the emergence of petroleum.

These natural endowments unfortunately left us complacent and unenterprising until the hard facts of international economics and the need for local diversification began to dawn on us.

Today, we have become much wiser and more desirous of achieving complete independence and a national self-reliance.

It is against this background and in expectation of a new economic order and abundant future that Nigeria, through NET, has taken the plunge into satellite communications. Rapid development is achieved through taking advantage of the world revolution in technology, international business and co-operation, and research.

NET has, since Lanlate, taken giant strides to improve and expand telecommunications in order to stimulate rapid industrial development and to boost international trade and co-operation generally.

The most ambitious and most forward-looking of Nigeria's telecommunications ventures is the second gateway in Kaduna and the

proposed eastern gateway complex at Enugu.

Kaduna:

This gateway complex comprises:

- The Kujama standard "A" satellite earth station and associated radio link with a modern tourist attraction: an architecturally impressive "visitors' centre."
- A computerised electronic international telephone switching centre and
- A computerised telex exchange system which has been installed at the Lafia road headquarters, off Ahmadu Bello Way in the heartland of Kaduna.

Meanwhile, a three-floor terminal building — International Maintenance Centre — at Lafia Road, including installation works, is almost completed.

This terminal will temporarily serve as an equipment room, switching centre and office accommodation until the construction of the 15-storey administrative complex in the same location is completed.

The Kaduna gateway completes the first phase of NET's presence, on a large scale, in the regions of Nigeria outside Lagos.

The idea of establishing this gateway (Satellite Earth Station with associated switching centres) was first conceived in 1975 when it was included in the Third National Development Plan of the Federal Government.

Seven years after the drawing-board conception of the gateway, it has become a reality.

Like its premier sister establishment in Lagos, it will provide full international telecommunications services: telex, telephone, telegraph, television data, facsimile and other telecommunications channels.

State Branches:

The basic corporate objective of the NET, which is the provision of external telecommunications services without tears to all parts of the country, necessitated among other factors, the establishment of branch offices within the Lagos metropolis.

Because of the inadequacy of the national local telecommunications system and our desire to achieve efficiency at an economic rate, state branch offices were opened at Abeokuta, Ibadan, Benin, Enugu, Kaduna, Port Harcourt, Kano, Calabar, Ilorin and Sokoto.

Through the dynamism of the Board of Directors and Management, NET's presence is now felt in almost every state capital in Nigeria.

Subscribers who cannot reach our Lagos switchboard through the national network are able to use facilities in our state branch offices for international calls.

To improve the quality of its services, the NET plans a tropospheric scatter transmission to link the state capital offices to the nearest gateway.

As an example, Northern states' offices will be linked to Kujama gateway; Eastern to Enugu gateway and Western to Lanlate.

In addition, and to ensure that the three gateways are not isolated, the NET intends to connect them in a delta formation to guarantee full diversity and redundancy.

We are actively co-operating with the Department of Posts and Telecommunications to get them to provide an Automatic Numbering Identification (ANI) in their exchanges in Kaduna and other capitals and major cities so that an international direct dialling facility can be introduced in these areas.

The company is also introducing space communication technology for ship-to-shore communications. A marisat station which is to be installed in Port Harcourt will enable subscribers to dial any ship from any telephone set direct to passengers on board.

Kujama:

From the politically embattled metropolis of Kaduna to the rural but now technologically developing Kujama in the North-east, spans an area of over 35 km of arable land, scattered vegetation, shanties and patches of high plains.

Traditional civilisation and modernity are juxtaposed. But one thing which has characterised urbanisation and development and is conspicuously absent on the enticing road that leads to the southern states is traffic congestion and industrial noise.

Except for a few mechanised farms here and there, one or two bottling companies off Kachia Road and a

Federal Government-owned quarry, the visitor has to travel miles of lonely road bordered on both sides by green or yellowing shrubs. After about 30km, the 32-metre (105ft) diameter disk antenna can first be spotted beyond a mountain range. This is the most expensive single item in the terminal — one of the most modern satellite earth stations or example of telecommunications technology in the world.

To reach the station one has to take a circuitous route some 5km off the major road because it is situated in the shelter of the mountain range and foothills on which some pastureland and a few trees flourish.

The beauty of the landscape, the architectural design of the structures housing sophisticated equipment, the engineering systems and operational techniques — a perfect blending of nature, technology and human skills — makes Kujama something of a spectacle.

It is the nucleus of the entire gateway complex, a recently designed INTELSAT-type station, an expression of the evolutionary process in the earth station development.

Amongst other items incorporated in the console are a spectrum analyser and micro-processor to control equipment like antenna tracking, local and universal time display, alarms system, power monitor panel, remote telephone panel for an engineer service channel and a methrological data-gathering device. Each item has a telephone extension. Even the antenna, which will transmit the major path satellite through the Atlantic, has a telephone extension. If there is any repairs being carried out on the antenna, workers could communicate with their counterparts in the control room.

On both sides of the control room are winged the administrative block (left) and the power house (right). The administrative block has a large conference room and a library, a lobby for visitors, a rest-room for senior staff members, an instrumentation laboratory and very spacious offices.

The power house accommodates AC generating plant, AC and DC no-break systems, and water chillers for the air conditioning units.

The other magnificent building is the visitors' centre, the first attraction close to the security gate house. There is also a guest house for transit staff members.

Easy communication within the entire complex is further assured with the installation of a public access system linked to the five zones, namely: the control room; administrative block; power and mechanical building; the visitors' centre and there is one for general use. It is, therefore, possible to pass information from the control console to everybody in the earth station at the same time.

Configuration:

The Kujama earth station has three main parts with two adjoining buildings. There is the operation room which carries the ultra modern (32m) diameter antenna and houses such modern telecommunications equipment as Ground Communication Equipment Engineering Service Channel (ECS) or engineer order wire with external telephone and teleprinter, a special equipment for communication between earth stations and for clearing transmission faults. It has a chart for 24 hours weather monitoring. With this equipment, Kujama can communicate with Lanlate, Niger Republic, West Germany, UK, USA, Canada and a few other earth station locations in the world.

There are high power and low noise amplifiers, microwave transmitters and receivers, multiplexing equipments and a control console at the new Kujama.

The control console is a novelty with a security video monitor from which a "porter" can watch the gate some distance away.

How words and pictures travel through space

There is a slide depicting a model of a satellite telecommunications system and how it works; and a conceptualised vision of what the terminal and its environment will look like when completed. In addition to this model, a panoramic view of the entire station and its operations can be viewed on closed-circuit television.

Another board with the inscription "Satellite launching," tells the various

processes or stages undergone before shooting a satellite into orbit. They are the Atlas stage, Noseshroud stage and Centaur, the last stage it reaches when it goes finally into orbit.

The same board explains the main objectives of launching a satellite:

- Communications,
- Exploration of natural resources, and
- Weather report.

Similar to this is another board: "What satellites do for us in pictures." Here, there are pictures of telephone/telex/data operators, television reception via satellite, agricultural development and natural resources. There is also a Fact Book which has questions and three possible answers on satellite communications as it affects Nigeria and mankind generally.

One of the questions asks who is responsible for the development and operation of external telecommunications in Nigeria, and another how do satellites help farmers.

Inside the centre is an enclosed auditorium. Photographs of INTELSAT satellite series and large photographs of the world and Africa taken from a satellite as it passes through the latter's space adorn the plywood wall of the auditorium.

There are models of rocket launchers and a typical INTELSAT V satellite suspended in the artificial "outer space" of the centre.

The feeling one gets, looking up, of a natural translucid blue nimbus overcasting the firmament and the exact positioning of the stars through lighting effects is a captivating experience. It is perhaps the greatest attraction of this centre.

Television transmission will be incorporated to Kujama under the second antenna now on the drawing board. A NET training school will go up somewhere close to the centre.

With miniturised circuits, large-scale integration and their replacement of a complex computer system with modern microwave processors for the control of various station equipment, Kujama, linked through microwaves to the international maintenance centre of Lafia Road, promises even more rewarding gains.

Interview With Executive Chairman

London AFRICA NOW in English No 27, Jul 83 pp 54-58

[Text] ***Dr. Ibrahim Tahir — NET's young, tough, aggressive executive chairman — talks about accomplishing one of the most challenging jobs in Nigeria: linking the country with the outside world and ensuring the efficiency of the company against great odds.***

- *How important is the newly commissioned Kujama Earth Satellite Station in Nigeria's telecommunication links with the outside world?*

The Kujama Station has provided a second carrier for external telecommunication services between Nigeria and the rest of the world. Essentially its facilities make it possible for people in the 10 northern states and from other parts of the country in access to the station to make telephone calls and receive other services with much ease. It increased the traffic volume and in terms of national development efforts it is going to open a vast part of the country to the outside world. As far as the volume of business is concerned, Kujama station makes us more viable and increases our income potential greatly.

- *Specifically, what equipment and facilities are at the Kujama station?*

The entire system is designed to carry telephone, telegram, telex and facsimile, the last being the method by which pictures, diagrams, architectural drawings and designs and so on, can be transmitted.

● *Besides the newly commissioned earth satellite station, there are plans to build a third station in Enugu. Will the realisation of the plan mean the attainment of a full capacity in your link-up with the rest of the world?*

What this would mean is there would be no part of Nigeria where people would be unable to get in touch with the outside world because of internal transmission problems. As of now, telephone subscribers are sometimes unable to cross the barrier between Kaduna and Lagos and yet at Kaduna the facilities are working perfectly. If Enugu comes on, all the three stations — Lanlate, Kujama and Enugu — would have been completed and linked up with each other as well as with a submarine cable terminal, serving as an alternative route. Each station would primarily serve as a zone and also act as back-up for the others so that a Lagos subscriber unable to get Kaduna would instead go through Enugu.

● *The one complaint one often hears from Nigerians is: "We can get Tokyo or New York but can't get Ibadan from Lagos or other Nigerian cities." How does this problem affect NET's performance?*

It affects our work woefully and this is very revealing when you look at the figures. Some two or three years ago, out of 300,000 telephone calls only 330 calls reached their destination within Nigeria because of the very bad internal transmission. We are affected because internal calls do not get to us for connection overseas. I suppose with the newly commissioned Kujama station, the ratio of calls not getting through to us could be brought down and will further be reduced when the Enugu station comes along. I believe by that time the international telephone user would begin to enjoy the high level of service and efficiency that obtains in other parts of the world.

● *The common experience is that parastatals like NET are no good at making profit and good business. It appears under your leadership a new approach has been adopted and things may be looking up. How different is NET from other parastatals?*

As a parastatal NET was registered as a limited liability company but this seems to have been forgotten by everybody. Over the years, the people who run NET under different governments cared very little about its business potential. Instead, they saw it as a means of enriching themselves, with the result that employees, senior officers, operators and even desk cashiers own blocks of flats and run a fleet of cars. As long as the company was able to publish its figures at the end of the year and didn't ask for money from government, nobody cared what was going on.

Despite the fraud, the business potential of NET was always there and the thing to do was to attack the criminal drain on the company resources and at the same time use fully its under-utilised potentials. When we took over, there was a 647% jump in pre-tax profit of the company after one year and I expect something like 1,200% jump in the second year from the level before we came in. This showed profitability was always there but something terribly wrong was going on in the company, and I hope we have brought that something down or eliminated it completely.

● *How did you turn the company round to reduce the fraud and to achieve results?*

There is no simple formula. The thing is to have some knowledge of system theory and how systems operate with the ability to focus on potentials on one hand and the actuals on the other hand and see how wide is the gap and to explain it. The short answer is to be absolutely clear of the facts and to take time to know the system inside out and to know, moreover, what is actually happening behind the facade. It is important to avoid the Nigerian pitfall of believing in allegations and setting up public inquiries; for the strong interest groups, including the secret societies who are behind the frauds, would frustrate any moves. What we did in NET in the face of persistent public allegations and quiet investigations, was to call in the external auditor to work with the internal auditor who has become almost catatonic because of attacks on him by his colleagues for

attempting to stop their fraudulent activities. We were to discover later that the external auditor has been complaining for years about activities and behaviour of professional accountants which, if they had happened elsewhere in any civilized business community, would have long ago landed them in jail.

● *In attempting to make NET work you must have stepped on some toes if not angered some strong interest groups. Have there been any threats on your life?*

The massive scale on which frauds went on here could not possibly be ended without resistance so I admit I stepped on people's toes and, indeed, faced the wrath of what I believe were men of a secret society and the maverick of a lone ranger. The first reported threat to me personally was in a conversation in Apapa, involving the principal suspect in some arrests made by the police in an office of a company. I was told that if I did not stop the investigations at NET the company itself would be destroyed and I would meet my end. Next, there was the report of a secretary to one suspended NET official to the effect that a fee of N10,000 was earmarked for my head.

On another occasion, a man was arrested close to our premises. He was posing as a NET employee and in his possession was a letter requesting the urgent supply of a gun with a telescopic sight. Other curious things have happened and are still happening, some of which I am not at liberty to talk about now. There was an incident involving my driver when he picked up my children from school and as a result my kids have been withdrawn from that school.

● *Is government aware of these threats and are you deterred?*

I don't think anybody should be deterred by these threats for that would allow others to take over. I believe the syndicate which operates here does exist in other forms — in NEPA, the railways, the NNPC and other companies set up with public funds and you just can't believe what they get away with. The thing is, we must have the courage of purpose and conviction to fight the syndicate. I am quite sure the President sent me here deliberately, knowing full well what is to be done to turn the company around. If people like me chicken out, then there will be no country, no government and no order. I am not going to be deterred by threats when I do what is right in my job.

● *Why do home subscribers have to pay an additional N200 to have access to direct dialling on the international lines? With all your earth satellite stations in place, why can't subscribers get telephones fixed and be free to dial out?*

Our internal telephone systems are very old and did not have IDD (International Direct Dialing). When IDD is fully installed it would come as part of an automatic exchange transmission system. The reason people pay a fee now is that IDD is fitted into the old system and we reason that people using privilege services should pay for them to the P and T.

● *The major drawback of public corporations like NET is the non-payment of bills? How are you solving this?*

I first met the problems of non-payment to Nigeria's public commercial houses when I went through NET's books and tried to urge the former management, which has now been removed, to do something to get the money back. There were many elements involved. There were dodgers and many people disputed their bills. The first thing I did was to engage in selective cuts and blackout of some of the heavy debtors. This at first did not include the government departments, the security agencies, the banks and commercial services necessary for sustaining the nation's economic activities. Later, we imposed blanket black-out. Anybody who owes us anything more than N5,000 is off the line.

● *When you cut telephones and subscribers still fail to pay, what do you do?*

I believe anybody interested in running a company ought to be able to use an efficient communication like telephones and telex. I believe such a

person faced with a black-out can make part settlements of the debts until he regains the use of our facilities. There had been attempts to beat us by bribing lower and middle-level employees to get different lines fixed but we have been able to face these dodgers squarely.

● *Your corporation suffered a major loss when your head office at NECOM House was set on fire. How much damage was done and how much recovery have you had since then?*

As far as our operational capacities are concerned, I didn't think we lost anything except the use of our offices. The telephones, telex and facsimile are back and working efficiently after a short fall-back on our emergency services. The one problem is the loss of our computerised automatic switch which at present disrupts the automatic sending of telegrams between head office and the branch offices. We are still without the use of our automatic data-processing system — the Management Information System (IMS). As far as losses are concerned, there is no definite figure yet as we are still arguing with our insurers. I just fired a nasty letter to them because they are behaving as if they have all the time in the world after the national disaster we suffered.

● *Like any Nigerian heading a corporation, you must be under tremendous pressure: favouritism, patronage and so forth. What challenges do you face in running the company?*

Not really running the company as much as leading it. In a politically elected regime, it is the political head who faces the pressure to do this and that. There are all types of problems. The first problem is the unreconciled bureaucrat. By that I mean the professional person who has a carrier and who has been recruited and working in NET, especially in the technical and administrative executive grades and more especially in the traffic and finance divisions, who have operated in a certain way for 13 years under military rule without the supervision of an elected official with a mandate. They virtually converted public property into private property and are able to give contracts to people without any intention of the contracts being fulfilled and to mark up prices and to employ their girlfriends who do no work and to fill up departments with motor vehicles which do not work and to load departments with people who do other jobs.

Basically the organisation has turned into some kind of rotating personal acquisition machine or a revolving theft machine and it has its problems of marking the price of goods to 250%. We have had one case recently where, after the last exercise in the middle of 1982, I was still getting back from the management a current expenditure statement ahead of the capital expenditure. In a fixed asset company such as NET this is something odd and ridiculous. So we went into it again and the same story came out — batteries which should cost N50 are costing N1,000 and the man will write it in and say he has bought it and, of course, it is not true.

● *Why was it necessary for the President to make a special mention of your company to the National Assembly in a budgetary statement?*

I think he did so because of our special effort to make the system work and our effort to reduce massive theft and graft and to fence off the political bully who comes along and says: "I am this and I am that. We started the political party and we must be given patronage." He then takes up a contract and disappears. Beside checking these problems we were able to expand and to establish branch offices which are working, including the Kaduna station which was said to be non-profitable by my former management team. The President mentioned us because we earned it by keeping everybody on their toes and the last disaster didn't affect us much.

● *People tend to think your efforts at NET are only a demonstration of the job and high office for which you are allegedly aiming.*

Personally, I have always regretted starting up things and not being allowed to finish them. I started first as secretary for the NPN and when things began to work, I found myself out. So it was with the railways. The only things I like are the

ones I can be associated with until their accomplishment. I don't like signposts. As far as the Presidency is concerned, I am not the type of man who feels that he must have a particular office. I am not the type of man who feels like I have been born to be a President; and I am not the type of man who will make Nigerians pay for it if I didn't become President. As far as I am concerned, there is a country, Nigeria, which has to be made and for my generation there is a great awareness of what is to be done. My ambition is that those of my generation who are aware of our country's need should join in our respective efforts to make the system work.

● *What is the future of external communications under you?*

I believe people can look forward to the best years of telecommunications in the near future because we have laid the necessary foundation. The problem of no connection with local stations may not last for more than 16 months.

As far as our survival is concerned, we look forward to people who use our services to pay up. Arguments over bills may arrive from time to time but by all means people should pay up because there is no accounting for relatives and girlfriends and sons' girlfriends dropping in from Kano, Abeokuta or elsewhere and using the telephones without one knowing. Our telecommunication needs are being well looked after by our present Minister, Audu Ogbe, who is doing a fine job to undo years of neglect. And to the businessmen, I say NET is here and will be here and it won't be long before we install lines for their exclusive use ●

Communications Minister's Statement

London AFRICA NOW in English No 27, Jul 83 p 65

[Excerpt] In his speech at the inauguration of the Second Gateway in Kaduna, the Minister [Audu Osbeh] said:

"Efforts by this Administration have resulted in the addition of 89,700 telephone lines to the telephone network it inherited thereby bringing the total available lines to 159,642. It is expected that another 28 new telephone exchanges would be commissioned between now and September, 1983, thereby increasing the telephone network by an additional 43,800 lines.

"To ensure that the telecommunications system of the nation is placed on a permanent basis of reliability, and in the attempt to eliminate the inherent operational and maintenance problems associated with the entire telephone network, my Ministry is presently actively engaged in a study aimed at evolving a telecommunications policy for the country. The outcome of the efforts will be the subject of a symposium involving all interested parties at one of the celebrations to mark the World Communications Year 1983. Also, in recognition of the fact that the reliability of transmission systems in other countries which we are striving to emulate depends to an overwhelming extent on the source of power to keep them going, my Ministry has begun feasibility and demonstration tests in respect of possible use of solar power in both the existing and the new transmission programmes. The issue is being actively pursued in view of the fact that the new transmission network would involve over 500 repeater stations, each requiring energy to run for 24 hours of the day with enormous costs in terms of fuelling, spares and maintenance costs to government.

"As the ultimate objective in the overall improvement of telephone, telex and telegraph services, serious consideration is being given to the provision of a countrywide transmission network through a communications satellite programme. The advantages of the programme are immense. Both the public and private sectors will reap immense benefits from its introduction. Action is already being taken to carry out a feasibility study on the programme and all interested parties and individuals are being invited to air their views on the subject. If and when these objectives come to fruition, the operation of the internal telecommunications system will assume major dimensions resulting in the fullest usage of the external telecommunications system now being provided . . .

"Presently, a total of 4,000 telephone lines have been provided, on a temporary basis, to serve the Federal capital of Abuja. For the immediate future, action is already being taken to provide on a permanent basis, four telephone exchanges to be located in Abuja, Gwagwakada and the airport. The combined capacity of the exchanges will be initially 51,000 lines and expandable to an ultimate capacity of 300,000 lines and with an initial trunk capacity of 4,900, expandable to 30,000. Also, a total of 2,000 telex lines will initially be provided with an ultimate capacity of 20,000. Tenders for the projects are already being processed for approval and implementation. The systems which are fully digital would, on completion, provide the most ultra-modern telecommunication services in the country with such additional facilities as paging, packet data, mobile telephones and telefax.

"When tied in with the external telecommunications services planned for the Federal Capital Territory, it is envisaged that, on completion, dwellers in Abuja could, with pride, equate the efficiency of the services to be provided with anywhere else in the world.

"I consider it necessary to dilate briefly on the problem of discipline, fraud and sabotage which would appear to be a national malaise and is endemic both in the Nigerian External Telecommunications and the Department of Posts and Telecommunications. You are no doubt aware of the efforts being made in NET to identify and eliminate the incidence of fraud which resulted in the burning of NECOM House with continuous threats of erasing what is left of the whole building as well as other external telecommunications centres all over the country. The Department of Post and Telecommunications has its fair share of such national wreckers with an incidence of over 11,000 fraudulent cases in 1982 alone, involving financial embezzlement, bribery, postal-order forgeries and illegal telephone connections.

"Continuous efforts are being made, with considerable success, to arrest the situation and deal firmly with the culprits. We seek, however, the active co-operation of the Nigerian public to eradicate the problem. Cleansing of society cannot be the responsibility of government alone. You can help by exposing the bad characters in society and resisting any attempt to be induced to offer gratification for illegal telephone connections or illegal external telephone calls. The assistance of the Nigerian public is required to ensure that not only such public services as communication services provided by Government are put to optimal use, but also ensure that the services are sustained at a recognised level of performance by ensuring that payments are made for the services rendered, insisting that receipts are issued for all payments made, desisting from tempting or being induced to bribe officers before being given services, and exposing any bad character in the establishment. With your full co-operation we shall be able to provide the sort of service you require" ●

CSO: 5500/202

COMPUTER EXPLOSION IN EDUCATION REPORTED

Johannesburg SUNDAY TIMES-BUSINESS TIMES in English 28 Aug 83 p 46

[Article by Julian Kraft]

[Text]

A COMPUTER explosion in education is occurring in South Africa.

The idea of using computers as teaching aids has caught the imagination of schools, some of which have already invested in computer networks.

Many others are budgeting to have networks installed next year.

■■■

Some schools are financing their investments by selling their computer services after school hours to outside pupils and other interested candidates, while a Johannesburg recreation and entertainment company, Alpha 2000, has become the first commercial concern to set up a computer centre where schools and individual pupils can get computerised tuition in mathematics, science and other subjects.

The 36-station centre, due to open next week, forms part of the company's recreation centre at Crestawave in Randburg and has already proved extremely popular during several experimental runs.

"When the children get behind those keyboards you'd think they were playing space invaders rather than learning maths," said managing director Brian Evans, who disclosed that a similar centre will soon be established in Soweto where his company runs another entertainment centre.

In Soweto the main emphasis will be on occupation and trade instruction programmes.

"We also plan to establish facilities in Cape Town, Durban and Port Elizabeth next year."

One of the first schools to get in on the act was the Potchefstroom Technical High School.

It seems to have been the first school in the country to integrate the computer network into the school syllabus instead of treating it merely as a means of teaching computer literacy or for remedial work outside school hours.

Another technical high school, Jan de Klerk of Germiston, which had a network installed this month, has adopted the same approach — and others are likely to follow suit.

Other schools which have already decided to go the same road — in most cases opting for the full 36-station BBC Education Computer network, a system dedicated to tuition in schools — include Greenside High in Johannesburg and Marais Viljoen Technical High in Alberton.

Chief catalysts in the big upsurge of computers in education are programmers Julian Visser and Verma Jooste, both former teachers, who have developed educational software for the South African market.

They have developed a full range of maths packages catering to all levels of schooling.

They will launch a range of science programmes before the end of this year and plan to do likewise with other subjects later.

Mr Jooste is currently investigating the export market for the basic maths package which has universal application.

Mr Visser's Pretoria-based company also provides school administration software.

At Crestawave users will be charged R5 an hour for use of the facilities. At Potchefstroom Technical High the charge for outside users is similar.

■■■

This rate compares very favourably with similar facilities in the UK.

Mark Davies, marketing manager for Psion Computers, distributors of the BBC system, said that as a result of schools market, monthly sales had more than doubled

In the up-and-running system at Potch each of the school's 1 020 pupils gets half-an-hour a week of individualised coaching and drilling in maths.

"The pupil gets more questions and produces more answers in half an hour — 150 to 200 — than he could have had for the whole term or even a year in an ordinary class," said Jim Cameron, the school principal.

CSO: 5000/201

CALL FOR COMPUTERS TO AID MATH TEACHER SHORTAGE REPORTED

Johannesburg THE STAR in English 23 Aug 83 p 5M

[Article by Jean Hey, Education Reporter]

[Text]

Computers could effectively help combat the shortage of maths teachers at a time when the technological needs of South Africa demand more people with mathematical skills, said Mrs Sue Woodthorpe, senior maths teacher at St Stithians College.

Speaking at the conference of headmasters and headmistresses of private schools being held in Johannesburg this week, Mrs Woodthorpe said local maths teachers were becoming an endangered species.

She appealed to large South African companies to help maths teachers by manufacturing computer software programmes geared to South Africa's maths syllabuses in all local languages.

"Most private schools in South Africa have microcomputers — but there are no local software programmes for the teaching of mathematics," said Mrs Woodthorpe.

Some South African schools had already installed computer-assisted instruction (CAI) projects to help with the teaching of maths. These were expensive and the programmes were mostly American.

They were nevertheless effective. Thanks to the CAI project installed at Malapo Technical College in Soweto pupils who completed five maths examples in half-an-hour when working from books could now do 50 examples in half-an-hour.

"There is less opportunity to waste time in front of a computer than in a normal class situation," said Mrs Woodthorpe.

The computer also saved the teacher time spent setting examples and correcting mistakes.

It consolidated maths theories, corrected inadequate teaching and compensated for the shortage of teachers.

However, teachers would never be replaced by the computer, she added.

"A person is more effective than a computer in teaching concepts because the teacher knows the comprehension level of the class and what vocabulary the pupils understand."

CSO: 5500/203

INTRODUCTION OF LOCAL AREA NETWORKS REPORTED

Johannesburg SUNDAY TIMES-BUSINESS TIMES in English 28 Aug 83 pp 11, 12

[Text]

LOCAL area networks will arrive in South Africa later this year and have the potential to speed up considerably office functions. The only catch is that the local market has no idea what networks are or how they function.

Companies such as GBS Wang and Rank Xerox have employees overseas at the moment learning about the systems and studying installations in preparation for the local launches.

However, once the launch machinery is rolling, it will be hard work to get across the concept of networking and office automation and the effects these will have on office operations.

Local area networks (LAN) join together computers (or processors) by means of lengths of cable and modems which allow the connected processors to talk to each other.

Depending on the type of network, they also allow processors to communicate with peripherals such as printers and disc drives, and to link into such services as Beltel and video-conferencing.

Advantages

The LAN method has some advantages over the traditional network that was based on terminals connected to a large mainframe.

With the traditional system, the response time tends to be longer — LANs offer very speedy response time.

The powerful WangNet operates at 80Megabits, or 80-million characters, a second.

Another disadvantage of the traditional network is the downtime: if the mainframe goes down, the whole system is out of operation, whereas with the LAN, if one terminal goes off, the system carries on working.

Rank Xerox systems business division manager Boudje Giljam says there are too many vendors pushing only the features of their products, without saying what they are really used for.

"The only reason the office exists is to process information, and these LANs use the power of the computer to automate text-based information," says Mr Giljam.

"Ethernet (the name for Rank Xerox's LAN) addresses the situation where high speed is needed and where low cost and flexibility are required."

Mr Giljam adds that affordability was high on the list of requirements for its LAN, and it has therefore eliminated a number of sophisticated features which might have made it more expensive.

The Ethernet microchip is to be manufactured by US chip manufacturer Intel and this should bring the price down. Mr Giljam believes that by 1985 it will be possible to buy the chip for $50, which makes it feasible for a lot more equipment to be put on line to the Ethernet network.

Useful

GBS Wang marketing manager Ed Brady says he believes the LANs will come in useful in such mundane considerations as eliminating large bundles of wires that have no place to hide in older office buildings.

The WangNet is a sophisticated LAN, with high-speed communications ability and the facility to connect into

such systems as video and television. This system also has a substantial expansion capability--the existing functions offered take up only 30% of the cable capacity.

Wang will have its system up and running at Bexa--the business efficiency exhibition at Milner Park next month--and hopes that this will clarify its implications for many potential users.

The Datapoint division of Computer Sciences represents a LAN known as Arcnet.

In South Africa, about 80 installations are in place, but these are mainly in areas such as inventory control, data processing and distribution.

"Local area networks, such as Datapoint's Arcnet system, provide the missing link that enables the true integration of office functions," says a Datapoint brochure.

"The ability to attach processing (word and data) facilities within an organisation provides the unity needed to effectively combine office functions into a cohesive body.

Datapoint marketing manager Barbara McCormack says: "We really believe we would be hard pressed to automate the office without local area networks."

CSO: 5500/201

GARMENT INDUSTRY GETS SPECIAL COMPUTERIZED MANAGEMENT SYSTEM

Johannesburg THE STAR in English 24 Aug 83 p 23M

[Text]

A computerised management system developed specially for the garment industry, and available on a pay-as-you-use basis, has been launched in Durban by Control Data.

Known as Cybercut, the system assists clothing industry managements in making their many and often highly strategic decisions in the running of their businesses, says Mr Rob Davis, manager of Control Data's applications and professional services.

"Cybercut does not replace the gut-feel management skills that clothing industry executives build up over many years," he says.

"Instead it complements these, and in so doing, creates more time for management to devote to other aspects of their business."

By using Cybercut, it is possible to predict the profitability of each production run as orders are received. This enables management to adjust prices either way to maintain a marketing edge and also the required return on investment.

A management aid like this enables garment manufacturers to bid more keenly for business, says Mr Davis.

A large or complex order need no longer be a planning and costing nightmare for even moderate size operations.

Cybercut will enable smaller companies to compete with larger competitors and deal with chain-store financial teams on an equal footing.

"A prime benefit of the system is that a manager can have a terminal in his office, and can at any time he wishes call for reports to be generated on various aspects of his operation.

"The system has been designed to help the manager minimise risks, and hence improve productivity and profitability."

Among Cybercut's functions are the quick, accurate matching of incoming orders with availability of fabric, trimmings and machine capacity.

"This allows management to ensure that inventories of both raw materials and finished goods are held at their lowest levels — a key element in optimising profitability."

Contral Data has made Cybercut available on a pay-as-you-use basis from a terminal in the user's office through Cybernet Data Services — the company's international bureau operation.

The system is entirely modular. A user takes only as many modules as he needs for his particular operation. Thus it need never happen that a client buys an entire system only to find later he cannot make effective use of all of it.

CSO: 5500/203

BRIEFS

UNIVERSAL LOGIC-DESIGN SIMULATOR--Spescom has introduced Hilo-2, a high-speed universal logic-design simulator from Genrad Inc. Hilo-2 aids in the engineering, design-verification and testing of digital electronics in semi-custom-integrated circuits such as gate or cell arrays, custom-integrated circuits and merchant very large-scale integrated devices. The software resources available in Hilo-2 facilitate fast, accurate logic-design, verification, and effective test-validation. Hilo-2 features gate-level and functional-level logic-design-simulation and timing-verification, test-validation, a high-power language for functional modelling, and a menu-driven interface. The Hilo-2 programme is available now and is running on 32-bit virtual memory computers. "One of the most important criteria to consider when developing a new product in today's fast-moving technological age is the time taken to bring that product to market. All too often optimum market timing is missed due to delays in the design process," says Mr Eric Taylor, marketing manager for Spescom. "An advanced logic design simulator, Hilo-2 incorporates figures specifically tailored to reduce design time. Hilo-2 will enable engineers to develop new designs faster, with improved efficiency, while its advanced simulation features will ensure a higher-quality product." "Collectively, the benefits of Hilo-2 shorten product-to-market time," says Mr Taylor. "They result in a better functioning, higher-quality product, and a significantly enhanced level of device-design understanding." [Text] [Johannesburg THE STAR in English 24 Aug 83 p 22M]

SA FRANCHISE FOR TRANTOR--Electronic Concepts announce that it has acquired the South African franchise for Trantor hard disk and the Web networking system for the Osborne 1. Trantor TSL disks, with 5, 10 and 15 Mbyte hard disk storage units give between 50 and 150 times the storage capacity of floppies and three to five times faster system performance. The disks are able to run interacting programmes simultaneously and to chain programmes leaving the Osborne 1 to run unattended. Trantor Web allows the small business user to combine from four users with a hard disk storage system. It has one parallel printer port and two serial ports. This is expandable to 16 users and operates up to a radius of 50 feet on flat ribbon cable or remotely via modem or acoustic coupler. [Text] [Johannesburg THE STAR in English 24 Aug 83 p 22M]

ECLIPSE MV/10000 ORDERED--Middelburg Steel and Alloys has become the first South African company to place an order with Perseus Computer Systems for its new Data General Eclipse MV/10000 32-bit computer. Mr John Gomersall, financial

director of Moddelburg, says the capability of the MV/10000 will elevate planning and control functions to a point of capability with the sophisticated technology of the Southern Cross Steel operation. "It is an interactive, on-line system. Through the placement of terminals in the sales and marketing divisions at head office, and in the production, planning and control divisions at the works, our operations will be better integrated." When fully commissioned the system will start with the capture of an order on a terminal at the sales office, record the production phases, handle the invoicing, up-date the debtors statements, and handle the laboratory test certificate. [Text] [Johannesburg THE STAR in English 24 Aug 83 p 22M]

RE-ENACTMENT OF EMERGENCY SITUATIONS--There is growing need for accurate re-enactment of emergency situations such as fires, natural disasters, civil unrest, bomb threats and other critical events. TK Datakomms has designed and made in South Africa a time-and-voice-recording system which can replay a recording of voice communications with synchronised display registering the time of the recording. A six-channel unit was recently installed at Amanzimtoti's fire station to provide time and voice recording of telephone and radio communication. The central unit is a control clock with a 24-hour digital display, outputs with time injection signals and alarms and input channels to facilitate the display of incoming time-synch signals. The facilities enable time signals to be injected on to any audio recording channel, such as cassette or tape recorder, simultaneously with a speech signal. This can later be replayed, the clock unit displaying the recording time for the replay. The recorded material is not tied to the time injection device, so time and speech can be replayed on an independent clock unit, perhaps at the organisation's central office. A search provides a particular time and replaying the information recorded. The central unit also provides for alarms to be generated at selected times such as the start of a shift, and can run any number of slave clocks. The clock unit costs R2 400. The audio-recording device can range from simple domestic cassette recorders to multichannel reel-to-reel recorders, and will cost about R500 a channel, depending on the recording device used. A British Micro Mimi 803 micro-computer has also been installed at the fire station to store and retrieve incident information, fire-prevention details and general administrative data. [Text] [Johannesburg THE STAR in English 24 Aug 83 p 23M]

AMDAHL MAINFRAME FOR SHELL-SA--Shell South Africa is to install an Amdahl plug compatible mainfrane to become its second commercial user and first remote-site customer. After the successful installation of Amdahl South Africa's first main-frame in the private sector--a 470V/8 processor at Liberty Life--Shell ordered an Amdahl 470V/7B processor with extended performance accelerator, 16 Mbytes of memory and 12 input/output channels. The Amdahl computer, which will include 10 Gbytes of 6280 high-performance disk-storage, will be installed in Cape Town this November. The equipment will handle Shell's expanding computer workload. [Text] [Johannesburg THE STAR in English 24 Aug 83 p 23M]

SOFTWARE HIT PARADE -- PUNCH-Line, leading suppliers of imported microcomputer software in South Africa, has this month introduced a "hit parade" chart on software sales, and will distribute a monthly chart to its dealer network in future. The hit parade is aimed at being as representative as possible of the true position regarding sales in the country. Punch-Line itself supplies an estimated 60% of all canned software sold. In addition it takes into account overseas sales and weighs them against its own sales to reflect in the chart the stock supplied locally by other distributors. The chart is divided into four categories--business, education, games and utilities--with the top 10 in each. Top four in this month's chart, which is based on July sales, are: --Business: Visicalc; The Bank Street Writer, Base II; The Home Accountant. --Education: Mastertype; Know Your Apple; Algebra; Terrapin Logo. --Games: Choplifter; Joysticks; Zork I; Music Maker. --Utilities: Bag of Tricks; Utility City; Zoom Graphics; The Graphic Solution. [Text] [Johannesburg SUNDAY TIMES-BUSINESS TIMES in English 28 Aug 83 p 17]

CSO: 5500/201

BRIEFS

COMMUNICATIONS CONTRACT SIGNED--The Ministry of Information and Broadcasting Services and Philips Electrical Zambia Ltd have signed a contract for the supply and installation of television transmitters for Mansa and Solwezi. The contract, which is worth 1.5 million kwacha, was signed at the Ministry of Information and Broadcasting Services headquarters in Lusaka this morning. The acting permanent secretary, Mr Edgar Chela, signed for Zambia, and Mr David (Coultier), the technical commercial manager for Philips, signed for Pye-Tvt Co, the manufacturers of the transmitters. Mr Chela said that the signing ceremony meant that Pye-Tvt of the United Kingdom would start delivering the equipment as soon as foreign exchange has been allocated. Mr Chela also said that the installation of transmitters at Solwezi and Mansa is in line with the party and its government's efforts to take both radio and television to the rural areas. Pye-Tvt is represented in Zambia by Philips Electrical Zambia Ltd. [Excerpts] [MB091648 Lusaka Domestic Service in English 1115 GMT 8 Sep 83]

LUSAKA AIRPORT RADAR OBSOLETE--Lusaka--Some radar equipment at Lusaka international airport has been out of service for four years, creating a "desperate situation" for pilots, a seminar heard here. Deputy director of civil aviation Mr Jimmy Zulu said his department needed R6,7-million to build a new radar system for aircraft control. "The present one, bought in 1966 when the international airport was opened, has been out of order for the past four years," he said. The controllers said in another resolution that the cannibalised radar equipment now being used "is obsolete and in some cases malfunctioning." The statement said controllers have to depend on constant radio contact because of the lack of adequate radar, and "this process is too long and cumbersome". [Text] [Johannesburg THE CITIZEN in English 7 Sep 83 p 8]

CSO: 5500/205

INNSBRUCK 'ROUNDTABLE' ON COMMUNICATIONS

LD172056 Moscow TASS in English 1913 GMT 17 Sep 83

[Text] Innsbruck September 17 TASS -- TASS correspondent Vadim Ivanov reports:

The "round table" conference on problems of the new international information order is continuing here. It is held on the initiative of the United Nations and UNESCO. As is shown by the discussion which is under way at the conference, the overwhelming majority of the participants in the meeting recognize the need of rendering support to developing countries in order to liquidate the disproportion in the sphere of information and communication, existing between them and developed industrial states. But there are still considerable differences in the question of ways and means of solution of the task.

Delegates of the USSR and other socialist countries advocate elaboration of a special document that would contain fundamental norms of a new information order on the basis of the principles of sovereignty and equality of states, their equal cooperation in order to ensure peace and international detente. Meanwhile a number of Western representatives are trying to reduce the whole discussion to purely technical problems.

Such a unilateral "technological" approach, many speakers emphasize, may lead to still greater technical dependence of developing countries on highly developed Western states. Instead of conducting debates on problems of new technology, so far inaccessible to most of the developing countries, it would be more expedient to render them concrete practical aid, for instance through introduction for them easy-term tariffs for the use of existing channels and communication satellites, as it was done by the Soviet Union.

Materials pertaining to developing countries now account for not more than 30 percent of the whole information which is transmitted by international communication channels, said in his speech senior official of Zimbabwe's Ministry of Information and Communication Means [as received] Justion Nyoka. But the population in those countries is approximately 75 percent of the whole population of the globe. Thus, "the map of world information" is absolutely distorted. To try to remedy the existing situation we plan in our country expansion of the network of radio stations and consolidation of cooperation with other African states, he said.

Wolfgang Kleinwaechter (GDR) declared for elaboration of a document that would specify principles and aims of the new information order. Discussions to this effect have been under way for many years but the situation has not changed. As before, a number of international information concerns are engaged in manipulation of public opinion in the West, he said.

CSO: 5500/1033

BRIEFS

WORLD COMMUNICATIONS MEETING--Tashkent, 4 Sep TASS--The capital of Soviet Uzbekistan is hosting the 4th session of the Intergovernmental Council of the International Programme for the Development of Communication (IPDC). Representatives of the member states of the programme, set up by UNESCO to extend aid to developing countries of Asia, Africa, and Latin America in developing their own effective systems of information and communication, will discuss fundamental issues of the IPDC's activity and applications for financing various projects from individual states and from regional organisations. [Text] [LD041534 Moscow TASS in English 1505 GMT 4 Sep 83]

'SUBVERSIVE' RADIO MARTI--Washington, 14 Sep (TASS)--The so-called "Radio Marti" will soon be added to the list of subversive U.S. radio stations. It will be waging a psychological war against Cuba. The Senate of the U.S. Congress has unanimously endorsed a draft law on the creation of this subversive radio station. It has been decided by way of "compromise" that "Radio Marti" will not be subjugated to the Board for International Broadcasting which supervises the "Liberty" and "Free Europe" subversive radio stations but will become part of the "Voice of America" radio station. But this will not change its essence since all subversive radio stations really have one and the same master, the United State Central Intelligence Agency. "Radio Marti" will have up to 14 hours air time a day and will broadcast on medium and short waves. All the expenditures will be paid by the Treasury on the budget of the United States Information Agency. The station will be situated in Marahon, Florida. [Text] [LD140843 Moscow TASS in English 0646 GMT 14 Sep 83]

CSO: 5500/1031

EUROPEAN TELECOMMUNICATIONS SATELLITE ORGANIZATION

Rome POSTE E TELECOMUNICAZIONI in Italian Mar-Apr 83 pp 26-29

[Article by Gaetano Graziosi: "EUTELSAT: A New European Satellite Telecommunications Organization"]

[Text] 1. On 18 January 1983, in Paris, Italy signed the Definitive Agreements pertaining to EUTELSAT[1], the new European organization the purpose of which will be to actualize and manage a satellite telecommunications system. The Agreements, signed in Paris after an arduous round of negotiations lasting from 3 to 14 May 1982 with the participation of 24 European countries, are two:

--The Convention Among the States, which lays down the general principals and policy lines of the new international organization;

--The Operating Agreement Among PT [Posts and Telecommunications] Administrations of the CEPT [European Conference on Posts and Telecommunications] (or Concessionary Companies), containing the technical, operational and financial norms relative to the functioning of the satellite telecommunications system.

All financial charges relative to the functioning of the system and the technical responsibilities relative to accessing the new system will be borne by the Agreement's signatory organizations.

2. The above-cited Agreements will replace the 1977 Interim Agreements[1] with which the Interim EUTELSAT was formed under the aegis of the CEPT and which presently consists of the PT Administrations of 20 countries: Austria, Belgium, Cyprus, Denmark, Finland, France, Greece, Ireland, Italy, Luxembourg, Norway, Netherlands, Portugal, United Kingdom, Federal Republic of Germany, Spain, Sweden, Switzerland, Turkey and Yugoslavia. (See table).

The Interim EUTELSAT has no legal status of its own, in that, it is made up of PT Administrations and not of states. It operates through the French PT Administration, to which the Interim Agreements assigned the role of proxy Administration.

The new EUTELSAT, on the other hand, will be a full-fledged international organization in its own right, with its own legal status independent of that of its members.

TABLE

Member European PT Administrations of the Interim EUTELSAT Organization as of 1 March 1983, with respective financial participation quotas expressed in percentages of the total investment:

Country	Percentage
Austria	1.97
Belgium	4.92
Cyprus	0.97
Denmark	3.28
Finland	2.73
France	16.40
Federal Republic of Germany	10.82
Greece	3.20
Ireland	0.22
Italy	11.48
Luxembourg	0.22
Netherlands	5.47
Norway	2.51
Portugal	3.06
United Kingdom	16.40
Spain	4.64
Sweden	5.47
Switzerland	4.36
Turkey	0.93
Yugoslavia	0.96
Total	100.00

It will therefore be empowered to enter into contracts and international agreements, acquire and dispose of assets, possess patents and privileged industrial information, institute actions in legal proceedings, and exercise exemptions, privileges and immunities.

Participation in EUTELSAT, which will be essentially commercial in nature, will be open initially to all European countries whose PT Administrations are menbers of the CEPT.

The new organization's primary objective will be to make available to the aforementioned PT Administrations, without discrimination, the system's space segment (satellites and their related control apparatuses) for the purpose of providing Europe with fixed and mobile public telecommunications services of high quality and reliability (telephone, telegraph, telex, facsimile, data transmission, radio broadcast and television).

The EUTELSAT space segment will also be made available, under specified terms and conditions, for government telecommunications of a public service nature (excluding those used for military purposes) and, on request, also for "commercial services" (teletex, videotex, video- and tele-conference, fast facsimile, electronic mail and others) and specialized services , such as radionavigation, direct-satellite TV, weather, and those dedicated to the exploitation of terrestrial resources.

Planning calls for basing EUTELSAT's space segment, for a period of at least 10 years, on the ESA's [European Space Agency('s)] ECS [European Communications Satellite] family of satellites, the first of which is to be launched around mid 1983. During the period 1984-1993, these satellites will enable improvement and diversification of the telecommunications links among countries in the CEPT sphere--these links are presently being provided by coaxial and microwave facilities--and the simultaneous and regular distribution of television programs for the account of the EBU [European Broadcasting Union].

Agreements to this effect have already been signed between the ESA and the Interim EUTELSAT and between the latter and the EBU.

"Commercial services," known also as multiservice systems, will be provided beginning about mid-1984 via modified ECS satellites and the French TELECOM 1 satellite, a portion of the capacity of which has already been leased by the Interim EUTELSAT.

3. As regards financial participation, Italy's initial investment share will be 11.48 percent of the total investment. That figure was determined under the Interim agreement, based on the projected amounts of telecommunications traffic to be routed via space facilities during the period 1984-1993.

Following the EUTELSAT system's initial startup period, each signatory to the Operating Agreement will be assigned an investment quota equal to its percentage of use as a ratio of the total percentage of the space segment.

It follows that the investment quotas will be subject to periodic adjustments in relation to variations in use of the space segment.

Each signatory to the Operating Agreement will contribute to EUTELSAT's financial needs in proportion to its assigned investment share and will receive in return, in accordance with preset amortization plans, the contributions it has made plus an appropriate return on invested capital.

The sum of net contributions and pending EUTELSAT contractual investments will be subject to a maximum limit (400 MECU [million European counting units]).

The monetary reference unit for the settlement of accounts will be the EEC's [European Economic Community('s)] ECU.

Investments will pertain solely to the space segment, since the earth stations will remain the property of the PT Administrations (or of the telecommunications organizations designated by them) and will therefore be subject to the legislation of their respective countries as regards installation, operation administration.

Access to the space segment will be granted on a direct basis to all the EUTELSAT member countries, and on an indirect basis to non members of the Organization as well, provided their respective PT Administrations are members of the CEPT.

In both cases, use of the earth stations involved must have the prior approval of EUTELSAT, based on the latter's having determined that their technical and operating characteristics will be compatible with the EUTELSAT system.

All users of EUTELSAT's space segment, whether members of EUTELSAT or not, must pay the prescribed using charges, which are to be laid down by the Organization.

4. The structure of the new EUTELSAT will consist of three main bodies:

--The Assembly of the Parties, consisting of the representatives of the states that have subscribed to the Convention. Its essential function will be to provide policy direction to EUTELSAT's activities and the system of voting will be that of a joint body, each member having an equal vote.

The Council of Signatories, consisting of the representatives of the PT Administrations or of the telecommunications agencies that have subscribed to the Operating Agreement. It will be highest decisional body in matters of technical, operational and financial management of the EUTELSAT space segment.

The Council will deliberate on the basis of the system in which the voting power of each of its members is weighted in accordance with that member's investment quota, provided, however, that no member may exercise a weighted

vote in excess of 20 percent of the total vote. Furthermore, the voting system will be relaxed by such appropriate expedients as may be necessary to prevent the exercising of a veto by one or a few members.

--An Executive Board headed by a managing director, which will be the lawful representative of the Organization and will be responsible to the Assembly of the Parties and the Council of Signatories for its action.

5. Given the essentially commercial nature of EUTELSAT, all contracts relative to the acquisition of assets and services required by the Organization will be awarded on the basis of international public bids, and the choice will be made on the basis of the best combination of the requisites as regards quality, price and delivery times. Only in cases of equality of terms and conditions can preference be accorded to bids submitted by European industries.

Voluntary withdrawal from the Organization, by the party to the Convention or by the signatory to the Operating Agreement, is provided for. In the first case, withdrawal is final. In the second case, the signatory may be replaced by the party that had designated it, which may then designate another telecommunications agency as signatory to the Operating Agreement.

The definitive EUTELSAT Agreements have no termination date, but procedures and terms and conditions are provided for possible amendments.

All controversies of a juridical nature between parties or between these and EUTELSAT may be resolved by arbitration in accordance with specified procedures, absent a settlement by other procedures within a reasonable time.

6. The text of the Agreements is expected to enter into effect by the beginning of 1984 upon having been subscribed to without reservations and ratified (or approved) by two-thirds of the countries that participate in the Interim EUTELSAT, provided they hold among them at least two-thirds of the financial participation quotas.

In any case, the Agreements cannot become effective prior to 8 months (15 March 1983) nor after 18 months (15 January 1984) following the date of their having been opened for signatures (15 July 1982).

Provision is made so that a country that has signed the Agreements but not yet ratified them may request their application in its regard for a temporary period which, however, may not extend beyond 2 years from the effective date of the Agreements.

FOOTNOTES

1. EUROPEAN TELECOMMUNICATIONS SATELLITE.

2. The Agreements on which the Interim Organization was founded are three: The Constitutive Agreement and two Additional Agreements.

The first of these lays down the general principles to which the activities of the Interim EUTELSAT must adhere. The other two contain technical, operational and financial provisions for the operation of, respectively, the ECS satellites, which are designed for fixed telecommunications services, and the MAROTS (now known as the MARECS [Maritime ECS]) satellites, which are designed for maritime mobile telecommunications services.

The "Additional Agreement on MAROTS" terminated after the founding of INMARSAT [International Maritime Telecommunications Satellite (Organization)] in July 1979, which incorporated also the European MARECS satellites into the worldwide maritime telecommunications system. All three of the Interim Agreements were signed by the [Italian] PT Administration, which has also signed the EUTELSAT Operating Agreement of 1982.

9399
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STUDY CITES OVERDEPENDENCE ON FOREIGN DATA BANKS

Frankfurt/Main FRANKFURTER RUNDSCHAU in German 25 Aug 83 p 3

[Article by RUdiger Scheidiges]

[Text] Within circles of German data protection experts, speculation has been going on for some time concerning the explosive power of a study, and rumors are circulating concerning the "scandalous result" of this study. What is meant is a paper with the title: "The Vulnerability of German Government and Economic Activities by Dependence on Domestic and Foreign Data Banks". This study was contracted by the Federal Ministry for Research and Technology and was performed by the Scientific Consulting Enterprise Schulte-Hillen in Cologne.

The study is 197 pages thick. It covers the economic, political and also military significance of international data communication by computer. It has been available to the Ministry since February 1983. There, one is certainly conscious of the explosive political power of the results, but there seems to be a lack of decisiveness concerning the conclusions that are to be drawn from this. Upon inquiry, the news agency of the Ministry said that the study is not yet supposed to be "publishable", and the opinion-forming process is supposedly not yet concluded. An employee of the committee "Information and Documentation", however, cautiously confirmed the results: "Correct in its basic trend."

The results: Through a misconceived information and documentation program on the part of the Federal government and by missed opportunities on the part of business, the national sovereignty of the Federal Republic is being threatened with restrictions, and there is a danger that the Federal Republic will become a developing country in the area of information processing. Literally it says: "The inequality of access to technical and economical, statistical and political data, which today already characterizes in wide areas the relationships between the industrialized world and the developing countries, can tomorrow characterize the relationships between Europe and the informationally highly-developed USA."

Behind such fears and warnings stands the opinion, represented by data protection experts, economic experts, and social scientists, that, in highly developed industrial nations, information stands next to energy as the decisive developmental factor. "On-line" data banks, that is data banks which can be called directly by the computer and within which are stored technical information for economic and political planning, are considered as the indispensible source of effective decision processes.

Data banks can be called from any location within the Federal Republic via the data packet communications service of the Federal Post Office. For this, the user requires a screen or a typewriter terminal (3000 to 20,000 Mark) so as to dial the data bank through an ID number.

This direct access, rapid within minutes, at this time has available about 100 million items of reference information, that is references to desired facts. Beyond these short versions of text (abstracts), data banks and information banks are being built from which the technical information can be retrieved.

The advantage of these data banks is not only the fast tracing of information, since the most various sources can be listed at the same time, but also their greater completeness and bandwidth. In principle, this network is worldwide. For example, if one wishes to know the best antidote for the seveso poison dioxin, one can, for example, call the largest American data bank supplier, the firm DIALOG/Lockheed, to obtain the most recent state of research.

The Enquete-Commission of the German Parliament, which foundered on political disputes, made the following statement in an "interim report" (there will be no final one), which was published at the beginning of the year: "Information processing in societies that are highly industrialized and that exhibit a division of labor is an especially effective means for the exercise of power." In short: The availability of information systems is a power factor.

"Impairment of national sovereignty" as it says in the study, is being threatened primarily by the risks of the concentration of knowledge, a legally undefined data protection, unclarified property rights regarding knowledge, a discriminating price policy in data traffic, political restrictions in the use of data banks, and the formation of data monopolies.

A case from practical experience: When the USA wanted to impose a pipe embargo on the Soviet Union, it stopped not only the delivery of information-carrying magnetic tapes but also deprived the rebellious French subsidiary Desa, which wanted to continue to supply the USSR, of direct electronic access to data banks in the USA. The enterprise starved at the long arm of the parent company. The investigation writes as follows concerning such sanctions: "This trend is promoted by the fact that, in economic disputes between highly developed countries, the handling of information regarding industrial production is becoming more and more important."

If a country does not have its own infrastructure in the establishment of scientific information banks, concerning which both business and government can dispose under their own authority, it loses the right of self determination concerning research, concerning economic and political developments. It becomes dependent on foreign information producers: "Among other results, the world-wide offering of highly developed services from powerful data base producers and suppliers, for example from the USA, makes the build-up of one's own data supply economically unattractive for many countries", so it says in the study. The fact that such a dependence has in the meantime already grown in the Federal Republic, is confirmed by some numbers from the Schulte-Hillens study; numbers which show that the data supply within the Federal Republic, which is available by direct electronic access, consists precisely of important European suppliers, such as ESA (European Space Agency), IRS (Information Retrieval Service of the European Space Agency) or

Data-Star (a conglomerate of bibliographical data suppliers), and partly of data bases (data collections) which are produced in the USA.

Especially crass is the condition of Data-Star: Out of 16 offered data banks, the contents of 14 are assembled in the USA and two in Great Britain. The study likewise observes a dependency for the data bank suppliers DIMIDI (German Institute for Medical Documentation and Information in Cologne), which arose in the Federal Republic through the information and documentation program of the Federal government from the year 1974. In 14 out of the 24 data banks that were studied, the information material is delivered from US institutions. Some of these data banks furthermore can be directly accessed only on a computer from the American vendor.

This indicates that, should these data banks be blocked, the quality of information procurement and planning for business and research would be decisively impaired, especially because - as the study states - the contextual overlaps between the US data banks and the German ones as well as the European ones are surprisingly narrow. In a conversation with the "FR", Schulte-Hillen becomes clearer: "The American data banks are clearly better, the German ones are by far not so extensive."

The fact that a blockage does not fall within the realm of Utopias was proven not only by the pipe embargo of the USA. The USA itself has coined the catchword "information war", when the common market wanted to deny the USA access to the European data network EURONET, which links the various data banks. From conversations with scientific and military experts, the Cologne researchers conclude that the American government is of the opinion that the unhampered transfer of information is facilitating Soviet armaments to a great extent, which forces the West to greater armament efforts.

Thus, the US Secretary of Defense Caspar Weinberger expressed the following opinion concerning the military significance of technical information, on the defense congress in Munich in 1982: "The wasteful transfer of industrial technical knowledge and of progressive technology from the West to the East has mightily increased the defense burden which we Allies must carry."

From this, the study concludes that a development is emerging, which could in the near future force the FRG either to limit information exchenge with the Eastern bloc or "itself being cut off from the free flow of technical and economic information from the USA." For this reason, the "national sovereignty" is being threatened here.

The Federal Republic could become directly dependent because, according to "scientific consulting" - ignorance prevails with the German politicians and business managers: "All conversations on this topic have shown that, in the FRG, the consciousness of both business and government is still undeveloped." The study cites some examples of this: "A check on the COCOM list (NATO Export Restrictions for Militarily Useful Goods), which is currently valid for the Federal Republic, shows that it contains no restrictions regarding software (programs), technical information, data banks, and their contents." When the contractual researchers discussed this with the agencies responsible for security questions in the Federal Republic, they found out that "they generally were unfamiliar with the power of data banks with technological contents. Likewise, the possibilities of international data transfer and the associated problems of security and of access to data banks were largely unknown."

The researchers did not find a higher state of knowledge, in terms of their own statements, with the Federal Ministry for Economy. There, inquiries met "a complete lack of understanding", with most of the partners in the discussion. "They obviously knew nothing at all about data banks and the possibility of data transmission", so the study says. Another partner in the discussion, however, then declared that, "within the framework of NATO", the COCOM list was currently being appropriately updated. In summary, concerning internataional data traffic by computer, the study states that at the moment "it is taking place in a practical legal vacuum." What is demanded at the very least are contracts with the USA.

The main reason for the "chaos" (Schulte-Hillen) in the area of data banks is supposed to be the mismanaged "information and documentation program" of the Federal government from the year 1974. Three years later, with a funding of 550 million Marks, there arose the first public data banks for technical information (called FIZ). They were supposed to acquire, store, and hold ready for retrieval as comprehensively as possible, the literature for every technical area. In the meantime, the program is crawling so badly behind expectations, that the Federal General Accounting Office is talking about backing substantiation of government engagement in the development of effective information systems, whereby a commercial information industry, which would compete internationally, has been obstructed.

As a consequence of the Schulte-Hillen study, the sales value of data utilization in 1981/82 was a mere 8.93 million marks. About 50 percent of the users from business come from enterprises with sales of more than 500 million marks. Enterprises with less than 100 million marks sales are not represented, according to the figures. Schulte-Hillen, whose enterprise naturally expects better chances from a market orientation through information, makes the following comment: "The program functions only for big industry, utilization by small and medium businesses is non-existent."

Seven years after embarking on the program, there are still Federal provinces in which business makes no use of data at all: Bremen, Lower Saxony, Schleswig-Holstein, and the Saarland. With the remaining provinces, more than half of the hours of data retrieval in the German market come from an American data bank. The consequences, according to the study: Considerable damage to the national economy by multiple research in industry and business, a concentration process in which only two data bank suppliers have a public offering within the Federal Republic (DIMIDI and INKA - Information Center at Karlsruhe), no wide-area information supply, migration of powerful commercial data banks to Switzerland, termination of a key industry, dependence on foreign countries, a threatening loss of state sovereignty in the power to dispose of information. To this, Schulte-Hillen add: "Nobody in politics recognizes its explosive power."

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POLICY FOR INFORMATION TECHNOLOGY INDUSTRY PROPOSED

Duesseldorf HANDELSBLATT in German 6 Sep 83 p 15

[Memorandum from Information Technology Industry to West German Government: "Use the Surplus Labor Market Potential, Anticipated until 1990, to Renew Job Qualifications"]

[Text] The 4 May 1983 government declaration emphasizes that information and communications technology promises new growth possibilities for the country's economy. In this connection the West German government declares its intention to submit a comprehensive concept on the promotion of these techniques, including those of microelectronics.

This means that information technology is getting the kind of attention from the federal government which, internationally, it is getting not only as a growing branch but above all because of its manifold shaping effects on other products and its interconnection with almost all spheres of life. The information technology industry welcomes this initiative and in this memorandum would like to make a constructive contribution. (The following documentation is concentrated on the second part of the memorandum, the objectives and strategies, because the first part is only a description of the current situation.)

It starts with three guiding ideas:

The information technology industry must first of all expand market positions that have been achieved and must open up new markets, above all foreign markets.

The rather tight personnel and financial resources must be used as effectively as possible through production cooperation and through greater participation of the German information technology industry in the accomplishment of public tasks.

The significant value-adding potential of information and communications techniques can be implemented only to the extent that the structural change in technology and industry, in the economy and on the labor market can be developed in a manner satisfying society as a whole.

Program's Overall Objective

The overall objective of this program for the further development of information technology in the FRG is its expansion into a cornerstone of industrial technology in terms of output capacity, self-concept, and public acceptance. As a leading Western industrial nation, the FRG must also win an important place for itself in information technology. Here is what that means specifically:

The role of the home market as the point of departure and as the guiding market for the information technology industry must definitely be expanded through a greater readiness for innovation;

The information technology industry's output capacity must be increased considerably so that it will be able to assume a strong position on this domestic market and on the international markets and so that it will thus be able to secure its earnings in long-range terms;

A permanently high level of technological development must be guaranteed for the long-term assurance of competitiveness on the world market;

To increase the capacity of the public administration and the other supporting government agencies and facilities, it is necessary consistently to employ installations of information technology;

Information technology must be steadily integrated in terms of social policy with a view to a broad public subject comprehension, convincing protection against abuse, and comprehensive cultural interconnection;

A series of measures on the part of the economy or the government is required to attain these goals. However, they will be able to unfold their full effect only if they are brought to bear together, thus strengthening each other reciprocally.

Necessary Measures by Industry

The German information technology industry has realized that it must cooperate far more closely than has been the case so far to improve its international competitiveness. This involves division of tasks between development and production, joint production cooperation with nonindustrial research and third parties (for example, offerors of components and subsystems), as well as the development of early initiatives aimed at the definition and international implementation of norms or standards.

The following ways should therefore be used without restricting competition:

To reduce the costs of structural components, parts, instruments (such as, for example, printers), software and subsystems (such as, for example, magnetic or optical bulk storage installations), these products can be procured either together from a production cooperation partner or from third parties;

Development and testing tools, especially those for systems and application software are subject to rapid and costly evolutionary development. Procurements should be handled together, development efforts and further improvements can be handled on the basis of a division of labor;

Implementation of joint, medium-range to long-range R&D projects with college and research installations in order thus simultaneously to attain a higher level of practical realism in research conducted outside industry.

The position of German firms in international standardization bodies will be improved lastingly through the joint development of early initiatives and through joint action with mutual exchange of information and support.

The information technology industry considers the equipment of the general-education schools with computer systems to be inadequate. In cooperation with the proper authorities, it will try to find ways in order to equip the schools with suitable systems while preserving the right of competition.

The information technology industry will, as a group, see to it that the public is better informed. A special concern here is to familiarize the younger generation with information technology and its related fields.

Government Must Improve General Conditions

The market is the factor that regulates the information technology industry. Government measures therefore should be confined primarily on creating favorable development possibilities in the FRG through accompanying general-industrial measures. The general economic policy conditions of the information technology industry however must be in keeping with the situation of the nation's involved in competition so that there will be equality of opportunity on the world market. Here we have five points of departure that seem suitable:

Orienting public [government] purchasing policy toward an enlargement of the market base for the domestic information technology industry;

Improvement of the position of the information technology industry in connection with particularly innovative applications and in conjunction with the increased development of foreign markets;

Direct R&D project promotion in selected information technology key sectors;

Measures aimed at the improved effectiveness of the R&D potential of colleges, research institutions, and industry;

Incentives and support in the founding of new enterprises in the area of innovative information technology.

Public Procurement Policy Tasks

The public investment volume represents a major share of the domestic market for information technology products. This market must be differentiated in

terms of procurement policy into the administration on the federal level, on the level of the West German states, as well as the communities; the post office and the railroads must be considered as government monopoly enterprises; national defense must be viewed in terms of its tie-in with NATO; and then of course we have the colleges and large-scale research installations.

To be able to use the budgets of the public allocation recipients for innovation, it would be necessary especially to stress projects that overlap several subject areas. In addition to an innovation impetus through such measures, we can thus also achieve public opinon formation through the visible, broad-scale use of modern technology.

Considering the pecularities of the demand in relation to specific ares, the following measures can increasingly lead to an innovation-promoting procurement policy:

The expansion of the information technology networks and services by the West German Post Office is of particular importance. It should adopt the role of an international pace-setter and a leading position in international norm development and standardization.

Planning assurance must be increased for the manufacturers through transparent, long-term, iterative system planning--practicably in a body made up of manufacturers and clients.

Technical innovation must become an essential procurement criterion. Procurement guidelines (VOL [Contract Award Regulation for Services, Except Construction Services], BVB [Special Contract Terms]) therefore must be so amended that they will not interfere with innovation-oriented offers. The unavoidable higher risks regarding functional reliability and costs must be covered here through subsidy financing.

The information-technology system competence of the supplier must be increased. GMD [Company for Mathematics and Data Processing] and other research institutions (AGF [Large-Scale Research Institution Working Group]), which are close to the BMFT [Federal Ministry of Research and Technology] could become active here with practical application advice.

The basic principle of letting small and medium enterprises participate directly or indirectly in procurement in a proportional fashion should be effectively implemented.

The prerequisite for the applicability of such measures is the product-related competitiveness of German offerors such as it exists in each individual case. At least in the core areas of information technology, procurement projects should basically be planned, developed, and carried out in cooperation with domestic producers if they can propose technically and economically appropriate solutions. When contracts are awarded to foreign producers, a certain know-how gain could be achieved at least through joint German participation.

The medium-range goal is still the lasting improvement of the overall-economic and free-enterprise general conditions in such a manner that the information technology industry will be able further to improve its position in international competition through its own strength and on its own responsibility. On the way to that goal however additional government measures aimed at the short-term of the market position constitute considerable help.

Application-Related Innovation Projects

The information technology industry's position depends on the ability to push innovation applications through on the market on a broad base against international competition. Such applications should be jointly defined and worked out by interested representative clients and producers. They must be so selected that they will open up many additional practical application opportunities after completion of the initial project with the pilot customer. Because they cannot cover the costs due to the novelty of the projects, the difference between the costs and the earnings would have to be financed partly by the manufacturer and partly from a promotion program.

Examples of such pilot projects are expert systems, sample recognition applications, new communications services, etc. In broad areas of defense technology and in the nuclear energy program, projects organized in this fashion have already been carried out successfully in several instances with corresponding promotion.

Indirect Measures to Improve Position

Along the lines of already on-going programs in other fields in the FRG and abroad, it has been proposed--in an effort to improve the international position--also to provide indirect and indirectly specific promotion measures. It should be the goal of these measures to stimulate development activity on a broad plane and to speed up innovation. The essential thing is to make sure that, just as in other countries, the entire German information technology industry must contribute to the improvement of the infrastructure along the entire breadth and that funds must be made available by the government at the proper level in relation to the in-house expenditures.

The following individual measures might be considered here: Tax benefits for R&D expenditures;

Subsidies for R&D expenditures, for example, in the form of personnel cost subsidies, etc.;

Improvement of depreciation methods of the user of information technology products including software (the current AFA [depreciation for wear and tear] rate of 5 years is no longer realistic because of the short-term innovation cycle);

Investment aid for the initial procurement of information technology products, including software, for example, through reduced interest rates and financing assistance.

The international market and innovation success of the applicant should be a criterion for the grant of R&D subsidies.

Promotion of R&D Projects

Without forward-looking project promotion for particularly risky, long-term, and costly R&D projects, no industrial nation today is in a position to assure information technology of the valence considered necessary at home as well as an appropriate position on the world market. Government promotion for R&D projects should here be concentrated on the further development and supply of key technologies; it should moreover facilitate the expansion of capacities for longer-term R&D tasks.

Key Priority Sectors

Tools for the designing, production, and testing of maximum-integrated electronic structural components for hardware and software system.

Industrial utilization of methods of "artificial intelligence," especially model implementation of expert systems of tools for the direction and care of large knowledge banks as well as suitable new computer architecture with quasi-associative control mechanisms. In this entire sector there is a special danger that a growing gap might develop to Japan's research and industry. There, a entire cluster of advanced individual projects is being pushed with considerable government support under the program designation "5th Computer Generation."

Suitable man-machine interface points, especially in the sector of integrated systems of office communications. Here, methods of sample recognition assume increasing importance for use in automated image and speech processes.

The integration of data and text processing with telecommunications and media communications technology on the basis of innovative microelectronics. Here, the emphasis in on the development and testing of maximum-integrated micro-electronic building blocks, optical electronic building blocks and transmission media from glass fiber technology, as well as peripheral instruments for the lower and medium output range (printers with a high script quality, high-resolution image scanners and screens).

We should basically stick to the 50-percent subsidy for direct project promotion as a promotion instrument. This makes it possible to use the money efficiently and for the attainment of objectives that are important in research and industrial policy. This promotion policy should strengthen production cooperation between enterprises, on the one hand, and research institutions in the government sector as well as in the universities, on the other hand, to a greater extent than has been the case so far. The procedure used in project approval and project follow-up by the project client should be made more efficient than has been the case until now.

Research Capacities Heavily Broken Up

The Commission of European Communities is currently drafting a promotion program in the field of information technology ("European Strategic Programme of Research in Information Technology," ESPRIT) which is to be concentrated so as to improve production cooperation among European firms during advance R&D work.

The inforamtion technology industry in the FRG welcomes this program and is basically prepared for R&D cooperation on the European level. It would of course be regrettable if the Commission were to downgrade the efforts necessary for the creation of a homogeneous European market on account of the ESPRIT program. Instead, it assumes that such measures will contribute to the urgently necessary creation of a homogeneous European market. The content and financial framework of the ESPRIT program currently cannot yet be fully gauged. It is of course already clear that it can support and expand national promotion measures but that it cannot under any circumstances replace them.

The output capacity of the information technology industry is fashioned essentially by the institutional R&D capacities in the sector of the economy, the universities, and the government institutes. In the FRG, this capacity is only one-tenth of the capacity in the United States. But even more serious are the qualitative aspects. Research capacities are heavily scattered; there is no cooperation and coordination. The information science schools on the college level are concerned mostly with theory because of the excessive numbers of students. The tie-in between industry and R&D studies is mostly very poor at colleges and in government institutions. Personnel exchange between research institutes and industry is only an exception.

The following is therefore suggested:

The range of instruments should be geared toward the coordination of research in the area of government-promoted institutes to form major concentration points and to step up cooperation with industry. It appears particularly urgent to set up such a body of instruments also for the microelectronics work area where the tendency toward the failure to establish major concentration points is increasing in a manner causing considerable concern;

Incentives and adequate organizational prerequisites for the exchange of personnel between industry, government research, and colleges must be created;

Research capacity in the public sector must be expanded gradually and this should be done by changing the dedication of the existing agencies around in view of the rather tight financial situation in the public budget.

The output capacity of R&D capacities and cooperation among the various sectors can be improved considerably through an effective interconnected data grid. The project for a DFN (German research network) is being welcomed in this connection.

Support Founding of New Enterprises

Growth increases on national markets are influenced essentially by the release of the innovatative potential and by inherent dynamics in the enterprises. The founding of enterprises could make a lasting contribution to both of these aspects. Manifold company establishments and their positive developments in the United States in the so-called high-technology sector confirm this. These efforts to establish new firms in the United States are being financed mainly through venture capital funds which last year were able to muster a sum of more than $1 billion. The FRG in practice does not have this kind of financing for the founding of new technology-oriented outfits. In the FRG we furthermore have the obstacle represented by difficult access to the outlet market and the reputation within the circle of established enterprises and in society as a whole which is something that recently founded enterprises do not have in the beginning.

The readiness of private money sources to make risk capital available, to strengthen the in-house capital base for young business operators, and the need to promote the acceptance and reputation of recently established enterprises --these can be lastingly improved through the creation of suitable general conditions. Promotion and support measures must be limited in terms of time and must be designed as assistance toward self-help.

The following individual measures are proposed in this connection:

Tax benefits

The target group for tax benefits (for example, deduction of the capital contribution from the income to be taxed or directly from the tax debt) could include investors (such as, for example, enterprises, private investors) and staff members of the enterprise concerned. The broad use of employee participation models--which can have a very stimulating effect particularly in connection with innovative and technology-oriented company establishments and which can thus also exert a certain multiplication effort--must be supported effectively. The in-house capital base of the enterprise to be promoted can be boosted through benefits on profits not paid out.

Production cooperation promotion and innovative procurement policy.

The production cooperation readiness of established enterprises with young enterprises and thus their possibility of getting into the market should be supported in a project-related manner. In particular, this measure can be implemented within the context of public procurement. An innovative procurement policy by the government will exert a multiplying effect here.

To master information technology, it will be necessary not only to train experts in this field in adequate numbers but also to have experts in other fields acquire information technology knowledge. Moreover, familiarity in handling computers must become a goal of general education.

In the training area there is effective division of labor between the government and industry: basic training in government training facilities, on-the-job

training, or industrial training establishments. The use of the computer must be introduced in a general fashion at high-level schools and in vocational schools; here it is important to make sure that it will not be confined to mathematics and data processing. Basic training in data processing must also become a part of education in most career fields which are not directly connected with data processing.

Training and Publicity Work Are Common Tasks

This requires suitable instructors as well as investments in equipment and training materials; here we can fall back on the experiences and results of industry. The surplus labor market potential, which we can expect until about 1990, should among other things be used for this kind of renewal and expansion of job qualifications. This requires offers and incentives to employees and to unemployed persons. At technical schools, technical colleges, and colleges, education must urgently be adapted to present and future requirements in accordance with the number of student slots and the technical level. Because technical equipment in relation to rising student numbers is becoming more and more scarce and because the equipment becomes more and more obsolete as the joint federal government and state government investment programs run out, year after year, we find that follow-up investments are indispensable here.

Moreover, we have the common task of making available to every citizen, at the right time and in an expert fashion, that knowledge on which he can build his judgment as to the essence and chances of information technology. The development and utilization of information technology is not only a commandment if our national economy is to assume a long-term favorable position in competition; it is also an essential chance for raising the living standard if the environment and raw materials are handled carefully and if the work stress is reduced; at the same time it promises better quality in products and services. Like any innovation, information technology is accompanied by risks and adaptation difficulties. Of course, it does at the same time offer technical possibilities for limiting the risk and for making adaptations easier. The more informed we are in making our judgment of this new technology, the more benefit will we be able to derive from it.

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